



New York, March 30th, 1901.
46 & 48 East Houston St.

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266 (missing)

Westinghouse Elec. & Mfg. Co.,
East Pittsburgh, Pa.

Gentlemen:-

I beg to inform you that I have placed yesterday with Westinghouse, Church, Kerr & Co. an order for one of your direct connected generating sets, comprising a Westinghouse compound engine to be used with or without condensing, as the case may be, and an alternating dynamo, 7200 alternations, two-phase, voltage from 140 to 500 volts. Kindly note that I require a two-phase machine, and also that I would like to have the two circuits entirely insulated from each other. I mention this explicitly, as in a talk with Mr. Scott we spoke of a three-phase generator. I have spoken to him about the kind of conductors to be used and the insulation of the machine, which should be made with exceptional care.

You will greatly oblige me by giving to this matter the best attention, so as to enable me to get the outfit with the least possible delay, and at the same time in a shape such as to deserve fully the great reputation you have acquired as constructors of machines.

I have still under consideration the small engine with excitor, a rotating transformer and some small motors and the large high tension transformers. In a few days these details will all be settled, and I shall communicate with Westinghouse, Church, Kerr & Co. and with you at the earliest possible moment.

Thanking you for the experimental transformer, which unfortunately has not yet reached my laboratory owing to some misunderstanding, I remain,

Yours very truly,



WARDENCLYFFE

TESLA AND WADING RIVER.

In the rays of the setting sun, the lofty towers of the Radio Corporation of America, Rocky Point radio station, cast their long shadows over the stubby second growth of Long Island's north shore in an easterly direction and almost reach the remains of a predecessor wireless station at Shoreham. This old plant representing, when built in 1902, the fond hopes of its originator, Nikola Tesla, has variously been called Wardencllyffe, Shoreham and Wading River. Wardencllyffe, or Wardencliff as it was sometimes spelt, is not to be found on maps today for the name has been changed to Shoreham. To be precise Wardencliff became Shoreham Station on the railroad and Shoreham itself identified a village up on the shore. Now that the railroad is gone and with it the station, the old place would seem to be without a name at all and that brings us to Wading River. This old settlement, antedating Tesla by many years, has been often referred to as the location of what was colloquially called 'Tesla's Folly' and not without justification for it was the only place thereabouts that could lay claim to the dignity of being a village. Wading River is a couple of miles east of the old laboratory site, to be sure, but in view of all the above, this name would seem to be the logical one to use in geographically locating the scene of this story.

No doubt the champions of the Tesla myth of wireless power transmission will contend that the selection of Rocky Point, at a later date, by the engineers of the Radio Corporation, is proof that Tesla too knew of the suitability of this section of Long Island for wireless transmission, otherwise, why did he proceed to erect his experimental station nearly upon the spot later chosen for

construction of the great Radio Central. It is conceivable that this might be true and that Tesla would have refused the offer of his friend Warden, the use of the land, had he not known of its wireless possibilities but the probability is that Tesla, with the financial aid of wealthy friends, was only too glad to avail himself of the opportunity presented.

Lest an erroneous impression be formed by the implication suggested in the reference to the Tesla 'myth', it might be well to make clear at this point that the famous Visionary had many finite accomplishments to his credit, long before he launched upon this great scheme of worldwide wireless communication, a forlorn symbol of which the deserted remains at Wading River still stand. It is known to very few people today that the alternating current power which electrifies their homes became a practical reality as the result of Tesla's unique inventions in 1887. It all started with his induction motor which made the use of alternating current for power purposes possible. From that he conceived the idea of A.C. low voltage generator outputs being stepped up by transformers, carried along on high tension lines of small cross-section wires, stepped down again through transformers at the distant point to useable values and thus applied commercially to his new motor. This flexible and highly efficient system could of course supply electrical energy for all purposes including lighting. Tesla even insisted that 60 cycles was the proper frequency at which to operate this system most efficiently and he has been completely vindicated by the fact that electrical engineers today concur with his initial judgement.

This triumph put Tesla in the forefront of electrical engineering and on his feet financially for a while at least. Each of the multitude of high tension towers which one sees marching across the countryside, is a steel monument to Tesla even if in the layman's mind, it is not thus associated. When the radio set in the home is snapped on, not only does Tesla's original conception power it, but all the radio frequency coils within the receiver stem from his high frequency air core transformer or 'Tesla Coil' as it was popularly called. It was about 1890 that he developed this transformer in connection with his ultra-high tension, high frequency

experiments. From these researches he evolved a plan of wireless power transmission which was carried through to a termination at Wading River where it quite literally did terminate with a finality that knew no revival. Demonstrations in the laboratory were, to say the least, awesomely inspiring, if not practically successful, for it was not at all unusual to witness high frequency sparks flash across space one hundred feet or more.

Prior to the Long Island attempt, an installation out in Colorado was used to demonstrate the practicability of the scheme and some semblance of success was claimed but before anything worthwhile developed, Tesla reached his habitual state of financial embarrassment and this chapter ended. Incidentally it might be mentioned that, in connection with these experiments, an effort to produce high frequency power directly from a rotating generator, rather than from spark discharges, was made by Tesla. He constructed the first known machine of this kind but dropped the idea principally because its frequency output was too low for his work. However, years later, the idea was revived by other investigators in wireless and claimed as their own. Also this electrical Wizzard understood and designed resonant circuits as part of the general plan for his wireless work and probably preceded Lodge in this respect. Lodge, however, patented and actually applied the scheme to communication work and thus really deserves the credit.

This may seem to be developing into a story of Tesla's life rather than one of Wading River but it should be evident now that the man was not the crackpot many people considered him to be. That failure was the lot of his greatest endeavor, should not blind historians to the many successes for which he was responsible. It is patently evident that Tesla did not, in his lifetime, succeed in his quest of sending electric power without wires to the earth's ends. In fact, nothing has transpired in science to indicate the remotest feasibility of such a scheme and quite the contrary seems to be the case, for no matter how strong the emanations from the highest powered radio stations, very sensitive receivers are still necessary to compensate for the attenuation resulting from long hauls.

Wading River

Granted that the Tesla theory did not follow the path commonly accepted in regard to the propagation of radio signals, it is hard to accept it as actually being anything radically different from the popular conception. This conclusion is based upon what is known regarding the equipment Tesla used in his tests and also the general set-up as was arranged at Wading River. Of that, more later.

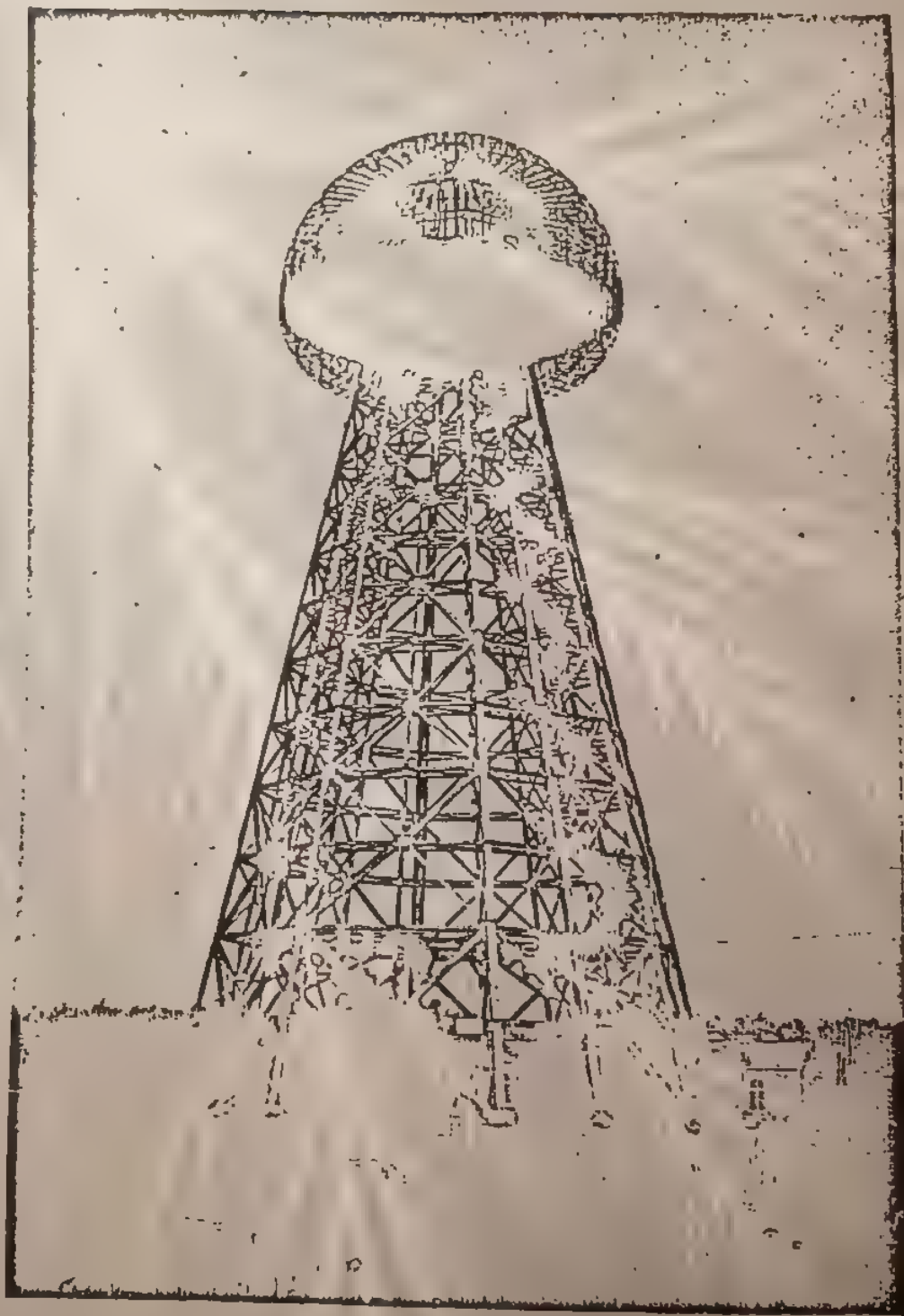
About 150,000 dollars was made available to Tesla, by his friends, so that he could prove once and for all time, that the sending of intelligence or power via wireless to all parts of the world was practically 'in the bag' as the saying now goes and he spent every last copper of that sum in the attempt. Halfway measures were foreign to his nature; his mind was incapable of dealing in anything less than superlatives, so it should not have been the least surprising to the contemporary world when it discovered what an incredible plant he caused to be built out on the uplands of Long Island. But it had the stamp of Tesla on every last detail and that about tells the general story.

When the tower was up, the casual observer would have probably overlooked the powerhouse entirely for it paled into insignificance in comparison to its colossal neighbor. Yet it was a large building by any yardstick and even larger in light of the fact that this was the generating plant of a wireless station in the year 1902. It was the wireless telegraph equivalent of the maritime 'Great Eastern', a gigantic undertaking years ahead of its time and the parallel can be carried further. Both of these were commercial failures and an astonishing number of years passed before either were exceeded in size. It would seem that these examples well illustrate the logic of the axiom of making haste slowly.

In exterior appearance, the powerhouse was not unlike electric lighting generating plants of the day. Solidly constructed of red brick, it measured 100 feet across the face and 90 deep. The roof, which was 25 feet high at the peak, was carried on steel trusses embedded in the walls. The heavy square smokestack which rose out of a low clearstory on the roof center to a height of 50 feet, was surmounted by a fancy iron grill-

TESLA'S INCREDIBLE TOWER.

The size is deceptive because of the broad base but its hugh bulk can be appreciated when compared with the powerhouse in the background.



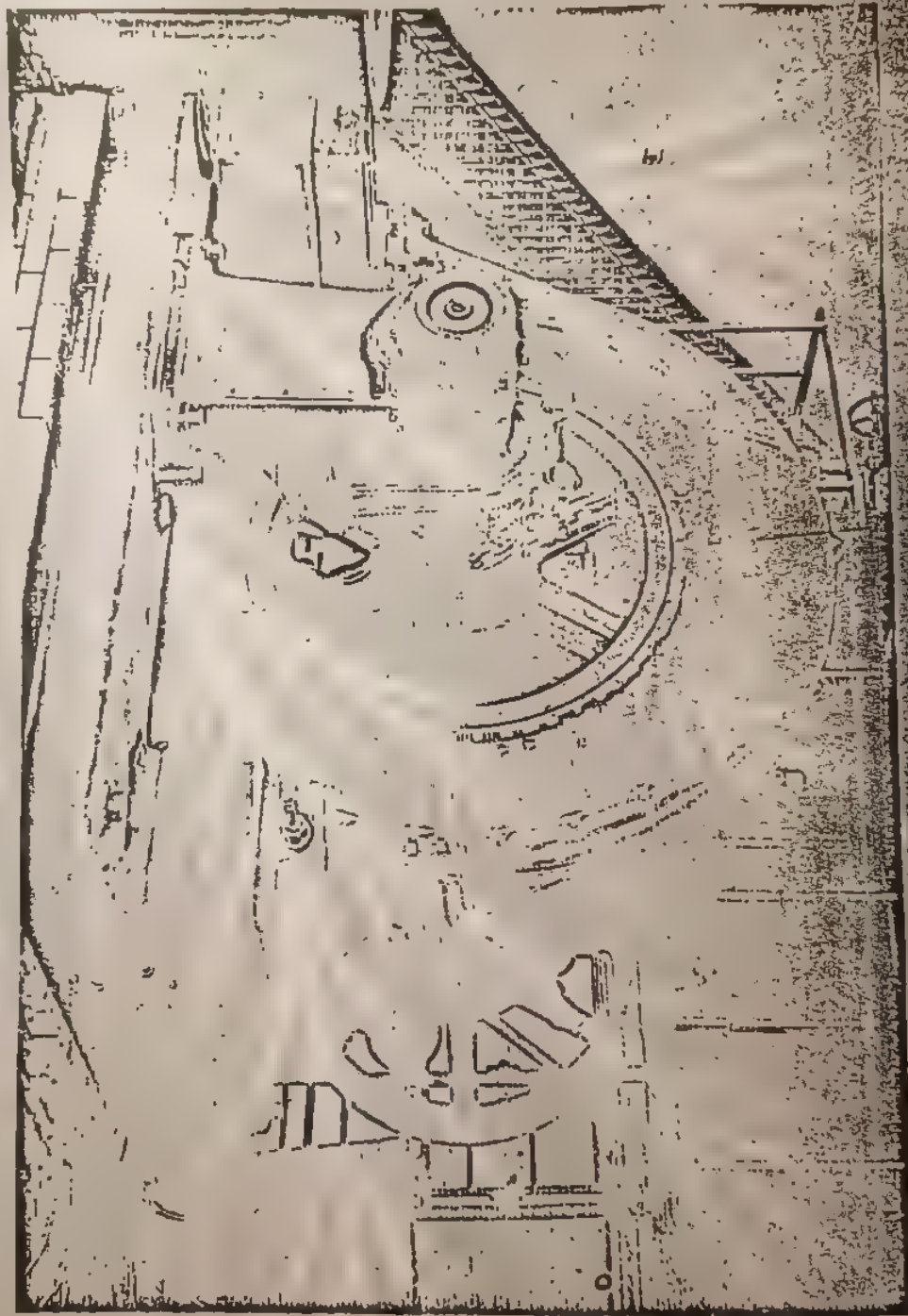
WADING RIVER MAIN GENERATOR.

Its vintage is evident from the general design. The vertical reciprocating steam engine is to the rear of the alternator. The size can be measured by the stairway to the left.

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work, topped by a weathervane. A profusion of high arched windows admitted ample light to the several very large rooms into which the interior was divided. One particularly big room, larger than many a banquet hall, ran across the entire front of the structure and was evidently intended to house the enormous high frequency transformers. A centrally located boiler room contained the steam generator which supplied the driving force for a 300 horsepower steam engine. This prime mover drove an alternator, the output from which fed into the low frequency voltage step-up transformer. The high voltage output excited an oscillating circuit comprising a spark gap, condenser bank and the primary of one of Tesla's famous coils capable of discharging millions of volts of radio frequency energy. The secondary of the big air core transformer was connected between earth and the radiator on the tower. Looking at that arrangement closely it will soon be discovered to be essentially the same as Marconi had already put to use out on Cape Cod, one big difference being the power and voltage values, both of which were considerably greater at Wading River. The steam engine was a verticle reciprocating unit directly connected to the big main alternator, mounted on a tile covered base, in line with the best central station practise. Many other auxiliary machines were provided for various functions. Workshop and laboratory facilities were maintained for extensive experimental pursuits. All in all it was quite a comprehensive installation for a wireless station, vintage 1902.

That overshadowing adjunct to this workaday appearing building, the tower, was very definitely something quite different. A more amazing structure could not have been designed if the architect had set out primarily to plan something calculated to startle the casual observer into sheer disbelief in what he saw. Here was a gigantic fabrication of the most intricate pattern, converging legs in number to rival a centipede, supporting at their upper ends, a huge circular platform which in turn carried a skeleton of projections forming an almost complete sphere, reaching into the sky 187 feet. Without seeming to have any utilitarian purpose this fantastic apparition was more like something from another world.

Becoming more specific, the form of the tower proper was that of an eight sided pyramid, truncated 154 feet from the ground. The outer of the twenty four legs spread in a circle almost one hundred feet in diameter at the ground and tapered in to thirty two feet at the top. A circular platform 68 feet in diameter rested on the tower top and from it a lacy arrangement of metal struts sprouted out to form an almost complete sphere, the lower portion of which was omitted to permit the the tower to pass through. This framework was to have been covered with copper sheets to appear as a large ball and serve as the radiating electrode. It is understood that Tesla's original plans called for a doughnut shaped antenna 100 feet in outside diameter and twenty feet through the tubular cross-section. This affair was to have laid flat across the tower top and in a plane with the earth's surface. It might be well to pause and compare this early idea with the latest development in frequency modulation signal propagation. Of course it is the ultra high frequency of such signals that enters the discussion here. This recent antenna is of the doughnut type and because of the very high frequencies involved, its physical size is rather small. Could Tesla have hit upon the basic theory involving such radiators when he first considered this form for his Wading River station back in 1902? This is not at all impossible for he had an uncanny faculty of visioning many things which, years later, came to pass.

But back to the tower. The wide-spreading of the legs at the base eliminated the need for guy wires with their propensity to absorb energy from the radiator. Wood was used almost entirely in the construction of the tower and all such metallic fastenings as were found necessary, were of nonmagnetic kinds. Electro-magnetically speaking then, the huge antenna was hung up in space 154 feet without support, just as if the tower didn't exist. Certainly an ideal arrangement, seldom attained in the most modern stations. The powerhouse and tower were about 200 feet apart but nothing definite exists to indicate just what sort of feeder system was to connect the two. In some fashion the secondary coil had to supply its roaring volts to that antenna.

There are no signs of lead-in insulators

at the powerhouse and an aerial span would certainly need something of that nature. However, there still remain at the old tower site some clues, in the form of large terra-cotta ducts, which might give the answer. These tubes, about eighteen inches inside diameter, are buried three feet deep and have a central metal conductor. They have the mechanical appearance of the present-day coaxial cable which functions as a high frequency transmission line. This cable has a metal outer tube through which the centrally positioned conductor passes whereas the contrivance of Tesla's has nothing but the earth surrounding the duct as a possible shield to cause it to behave, possibly, in a manner similar to the true coaxial line. This is of course entirely a conjecture, yet, it is reasonably possible that Tesla had envisioned the principle of the coaxial transmission system at this early date and that this was his version of it. If so, it never had the opportunity to demonstrate its worth for the copper shell of the radiator on the tower top was never installed and of course no transmission line was ever needed.

Wading River was intended to demonstrate the worth of Tesla's crowning invention which he called 'The Magnifying Transmitter'. What he evolved out here was definitely magnificent but it never got to the stage of doing any magnifying. Whether the old story of running low on funds was the main cause of the failure, and it well could have been, is not certain. It probably will now never be known whether he perhaps realized some fallacy in the scheme foredoomed it. That the threads of the ill-fated system were never picked up by later engineers where Tesla let them drop would seem to indicate that the whole plan was a will-o'-the-wisp. Actually, all experience in radio transmission seems to clearly show that no appreciable amount of radiated energy gets very far from the antenna, that is, amounts which in themselves could do any real work. Now, if Tesla's machinery had been of some radical sort or his radiators entirely apart from the conventional, then perhaps it might seem that he had something of a nature too advanced for ordinary comprehension. What he had was only a more powerful version of contemporary apparatus and his radiators were simply antenna physically unusual. Many wireless stations since

Tesla's time have radiated more power than did his out in Colorado (the one at Wading River never having radiated anything) yet their signals did not magnify but followed the usual rule of attenuating as the square of the distance.

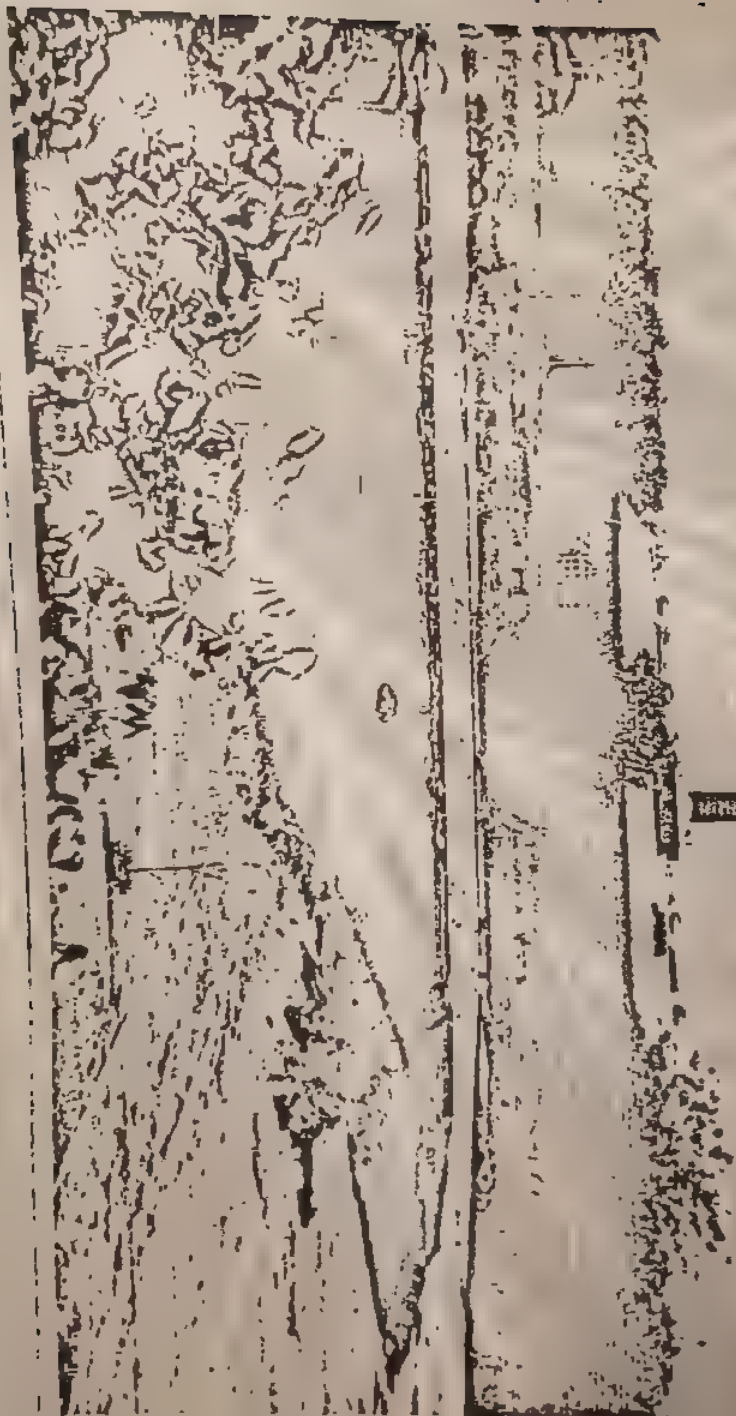
It seems that the basis of the scheme was that as the earth was a huge capacity, its electric stability could be disturbed at one point by strong manmade electrical discharges which would alter the earth's potentials throughout its surface to a degree that would permit useful energy to be drawn off at any point and be put to profitable work. The powerful pulsations from the transmitter would produce standing waves which would flash around the earth to the antipodes and bounce back, so to speak, continuing this process, all the time getting stronger until as Tesla said, the effect of millions of horsepower of available energy would result from the paltry 3000 or so at the agitating source. This would certainly be perpetual motion plus, to say the least. Somehow nature's forces would supply the difference between the starting and resulting power. Just stick a tuned rod on your rooftop down in South Africa and have all the electric power necessary to run the household, all coming from New York perhaps. Well—there it is but with Tesla, there it wasn't and what is left out on Long Island is a monument to a dream yet to be fulfilled by man. Some day perhaps powerhouses filled with banks of glowing electron tubes, humming transformers and winking pilot lights will serve mankind in a manner predicted by Tesla, but it is not yet and nothing at the moment indicates how or when it will be.

Tesla is gone. The incredible tower too is gone. Only the old powerhouse stands guard over the spot where a scientific revolution was to have taken place. Few passersby think of that large brick building as anything more than it now resembles, a abandoned factory of some kind. Reasonably intact except for much broken glass, its empty halls echo hollowly to the intruder's footsteps. Not a vestige of electrical equipment remains to give a hint as to its original purpose. Concrete foundations with protruding bolts plainly show where engines, generators and transformers once stood. The place has

been picked as clean as the proverbial hound's tooth. Only that indescribable atmosphere of quiet desolation, characteristic of such abandoned places as this, pervades the scene.

Of the tower, not a splinter remains. By a strange coincidence, the history of this one runs oddly parallel to that of the Varconi Towers out at South Wellfleet. At both stations, the towers were erected within a year of the same time and then, because of World War 1, they were deliberately dropped by man within a period of two years. The similarity ends there for, whereas the towers on Cape Cod served usefully and faithfully, this one served only as a symbol of disappointment and, depending upon the point of view, folly. The demolition of Tesla Tower resulted from a decision of the Army authorities that it was a menace to security as it might be used somehow by enemies of the country. Accordingly, explosives were placed under the legs and detonated. The tower fell over on its side, intact and was dismembered where it lay. No doubt the neighbors had a field day in acquiring many good timbers from the wreckage as do their cousins along the coast when parts of ships come ashore and probably with as little sentiment.

The concrete apron which paved the ground at the base of the tower is still there. A large crater in its center was formed by the explosives which toppled the tower and that is still there to bear mute testimony as to the destructiveness of the blast. The ducts which might have been Tesla's transmission line, protrude from its sides. Weeds and new trees are growing up to hide this scar in the landscape and cows graze on the land around the powerhouse quite indifferent to its historic intentions. Now that the story is told, perhaps we may have to agree that the sobriquet-Tesla's Folly-is not too far out of line with the facts. This was not a success story to be sure, but yet it has a place in history and who knows now that Tesla will not, some day, be vindicated. If that comes to pass he will have the last hollow laugh in valhalla or wherever it is that all good wireless men go.



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WADING RIVER POWERHOUSE 1925.

In foreground is the crater left when the tower was blown up in 1917. The old place, now left to its own devices, is gradually showing signs of long neglect.

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CONTENTS:

173. TELEGRAPHY,
Wireless.

Print Apr. 22-1903

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1. *Req.* Mich. 18-1902—2. *Req.* Mich. 14-1903—3. *Req.* Apr. 16-1903—4. *Amend't C.* Apr. 15-1904—5. *Req.* Apr. 25-1904—6. *Amend't B.* Apr. 24-1905—7. *Renewal Letter* May 4-1907—8. *Req.* May 24-1907—9. *Amend't C.* May 23-1908—10. *Req.* Aug. 26-1908—11. *Amend't D.* Aug. 27-1909—12. *Letter* Sept. 28-1909—13. *Notice of Appearance* Sept. 28-1910—14. *Amend't E.* Sept. 28-1910—15. *Letter* Nov. 15-1910—16. *Permit to Inspect* Nov. 22-1910—17. *Amend't F.* Nov. 14-1911—18. *Req.* Dec. 27-1911—19. *Amend't G.* Dec. 27-1912—20. *Req.* Mar. 26-1913—21. *Amend't H. & I. (Sub Spec)* Mar. 25-1914—22. *Amend't to Org.* Mar. 25-1914—23. *Ex. Amend't* Apr. 27-1914—

TITLE:

Improvement in Apparatus for Trans-

mitting Electrical Energy through

the Natural Media

(16 Claims)

112 (Cl. 250-33)

Rule 15. In every amendment the exact word or words to be stricken out or inserted in the application must be specified and the number of the page or pages of the paper where the amendment is to be made. All such amendments must be on sheets of paper separate from the papers previously filed and a list of the amendments must be filed with the amendments.

Room No. 91

All communications should be addressed to
The Commissioner of Patents,
Washington, D. C.

2-1, 16.

Serial No. 90245 Paper No. 1

All communications respecting this
application should give the serial number,
date of filing, and title of invention. *Reg.*

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE,

WASHINGTON, D. C., March 18, 1902.

Nikola Tesla,
Care, Messrs. Page & Cooper,
Broadway,
New York, N.Y.

Please find below a communication from the EXAMINER in charge of your application
filed Jan. 18, 1902, Ser. No. 90,245, for Apparatus for Transmitting
Electrical Energy through the Natural Media.

F. J. Allen
Commissioner of Patents.

This case has been examined.

The construction described in lines 15-17, page 5, has not
been illustrated in figure 5. This should be done or the
description cancelled.

Regarding the first paragraph of page 6 applicant is required
to more fully set out the manner of adjustment that will prevent
the shift of the maximum pressure point. The head a should be
shown as slotted, as described in the last paragraph of page 6.
The material of the drum D' should be given.

The modification in the last paragraph of the specification
should be illustrated.

The claims are rejected on

Kinraide, 676,583, June 18, 1901,
" 689,098, Dec. 17, 1901,
" 689,199, Dec. 17, 1901,
Electricity, Generation, Frequency Changers.

G. C. Allen

G. C. Allen

Examiner, Div. 16.

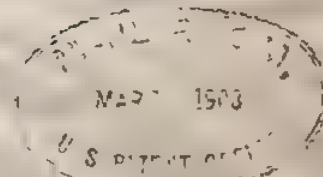
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91275- 2
 Recd. for Record
 March 14 3

Room 91.

Application of Nikola Tesla, Appa-
 ratus for Transmitting Electrical
 Energy through the Natural Media,
 filed January 16, 1902, Serial No.
 90,245.



New York, March 13, 1903.

Hon. Commissioner of Patents,

Sir:-

Reconsideration of the above entitled application is requested. The references of record have nothing in common with the invention of applicant, who utilizes the well known property of an electrode of a large radius of curvature, in an entirely different manner and for an entirely different purpose. In the first place he aims at preventing the leakage of the high tension currents from the entire apparatus, and not simply from an electrode. This is not the case in the patents cited--in fact this idea is inconsistent with the object sought by the patentee. The electrodes described would not be suitable for use in the sense of Tesla's invention. There is no insulating support, and nothing whatever to show that, if Kinraide's electrodes were used in the sense of Tesla's improvement, electricity would not leak out from the conducting supports, which are of comparatively small diameter. The cardinal features of applicant's invention are entirely wanting from Kinraide's disclosure, the latter's employment of an electrode of carved contour merely serving to localize, as it were, a specific effect, which effect Tesla's invention

avoids altogether.

The Office draftsman will be directed to furnish the additional illustration required by the Examiner.

Respectfully submitted.

Herr, Page & Cooper

3/11

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2-260.

Room No 91.
 All communications should be addressed to
 The Commissioner of Patents,
 Washington, D. C."

Paper No. 3.
 All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE,

Nikola Tesla,

WASHINGTON, D. C.,

Apr. 16, 1903.

C/o Kerr, Page & Cooper,

#120-Broadway,

New York, N.Y.

Please find below a communication from the EXAMINER in charge of your application.

#90,245, filed Jan. 18, 1902, for Apparatus for Transmitting Electrical
 Energy through the Natural Media.

F. J. Allen.
 Commissioner of Patents.

This action is in reply to applicant's communication filed
 March 14, 1903.

The requirements for amplification of the specification
 and for the additional illustration, specified in the last office
 letter, are repeated.

Claims 2 and 3 are allowed.

The other claims are believed to be properly rejected on
 the references of record. In patent No. 689,096, a² is an insulated
 support connected to a curved conducting surface at a point of low
 electrical density. Applicant attempts to distinguish his invention
 from the apparatus disclosed by the references by stating in his argu-
 ment that he avoids altogether the effect sought by Kinraid. Kinraid's
 electrode of large radius of curvature is an electrode for discharging
 electricity into the atmosphere, to another electrode, and it is
 thought that this is the function of applicant's electrode. If, how-
 ever, such is not the case, the specification should clearly explain
 what is meant by the expression "transmitting electrical energy through
 the natural media," (See line 5, page 1.) which is stated to be the
 function of the apparatus disclosed.

g. C. Mean

G. C. Mean
 Examiner, Division XVI.

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Room 109.

71204-16
Wm. R. R. Cooper
Apr. 15-1904.

a Application of Nikola Tesla,
 filed January 18th, 1902, Serial
 No. 90,245, Apparatus for Trans-
 mitting Electrical Energy Through
 the Natural Media.

New York, April 14th, 1904.

Hon. Commissioner of Patents,

Sir:-

In the above entitled application we amend as fol-
 lows in response to the official letter of April 16, 1903:

Cancel the entire specification and claims, except
 the signatures, and substitute therefor the annexed.

Replying to the Examiner's statements in the official
 letter mentioned we would say that the electrode a^2 of patent
 689,096 is not supported on a place of low density, but to all
 appearance on a place of high density, since the radius of
 curvature of the support is very small in comparison with that
 of the electrode. As pointed out, the arrangements described
 in this and other references previously cited have nothing
 in common
 whatever with applicant's invention. We have endeavored, on
 pages 9, 10 and 11, of the new specification, to bring out the
 salient features of his invention, which we trust will be
 sufficient to convince the Examiner on this point.

The claims formerly rejected have been amended, and
 additional ones introduced.

The changes required in the drawing will be made in
 good season.

Respectfully submitted,

Kerr, R. R. + Cooper
5 311-16

To all whom it may concern:-

Be it known that I, Nikola Tesla, a citizen of the United States, residing at the Borough of Manhattan, in the City, County and State of New York, have invented certain new and useful improvements in Apparatus for Transmitting Electrical Energy, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

In endeavoring to adapt currents or discharges of very ^{tension} ~~high tension~~ to various valuable uses, as the distribution of energy through wires from central plants to distant places of consumption, or the transmission of powerful disturbances to great distances, through the natural or non-artificial media, I have encountered difficulties in confining considerable amounts of electricity to the conductors and preventing its leakage over their supports, or its escape into the ambient air, which always takes place when the electric surface density reaches a certain value.

The intensity of the effect of a transmitting circuit with a free or elevated terminal is proportionate to the quantity of electricity displaced, which is determined by the product of the capacity of the circuit, the pressure, and the frequency of the currents employed. To produce an electrical movement of the required magnitude it is desirable to charge the terminal as highly as possible, for while a great quantity of electricity may also be displaced by a large capacity charged to low pressure, there are disadvantages met with in many cases when the former is made too

large. The chief of these are due to the fact that an increase of the capacity entails a lowering of the frequency of the impulses or discharges and a diminution of the energy of vibration. This will be understood when it is borne in mind, that a circuit with a large capacity behaves as a slack spring, whereas one with small capacity acts like a stiff spring vibrating more vigorously. Therefore, in order to attain the highest possible frequency, which for certain purposes is advantageous and, apart of that, to develop the greatest energy in such a transmitting circuit, I employ a terminal of relatively small capacity, which I charge to as high a pressure as practicable. To accomplish this result I have found it imperative to so construct the elevated conductor, that its outer surface, on which the electrical charge chiefly accumulates, has itself a large radius of curvature, or is composed of separate elements which, irrespective of their own curvature, are arranged in close proximity to each other and so that the outside ideal surface enveloping them is of a large radius. Evidently, the smaller the curvature the greater, for a given electric displacement, will be the surface-density and, consequently, the lower the limiting pressure to which the terminal may be charged without electricity escaping into the air.

Such a terminal I secure to an insulating support entering more or less into its interior, and I likewise connect the circuit to it inside or, generally, at points where the electric density is small. This plan of constructing and supporting a highly charged conductor I have found to be of great practical importance, and it may be usefully

applied in many ways, as will be seen from the accompanying drawing, in which

Fig. 1 is a sectional view of a free terminal and the upper portion of its support;

Figs. 2, 3 and 4 are sectional views of devices modified in details, and

Fig. 5 is a view in elevation and part section of an improved free terminal and circuit of large surface with supporting structure and generating apparatus.

Referring to Fig. 1, a designates a hood or shell of conducting material of spherical form with an opening on the lower side, and b an insulating support which passes through this opening and fits into a metallic socket g secured to the inner surface of the hood. The conductor c, conveying the high potential charges to this terminal, is led into it through the same opening and connected to its inner or underside. When, for convenience, the wire is connected to the outer side of the shell, it should point towards the center of the latter, as otherwise the density might be great at the connection and the streamers breaking out ~~xxx~~ there might limit the performance of the apparatus. The terminal, of course, need not be entirely of metal, the only requirement being that its outer surface be conducting, and that it be supported at points of low ^{electric} density. In this manner the leakage of the current along the post b is obviated, while the uniformly large curvature of the outer surface -which should be smooth and, if possible, polished- prevents the breaking out of the charge into the air. Thus a considerable quantity of electricity may be accumulated on

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a single shell, notwithstanding its small linear dimensions and capacity. The wire c should be heavily insulated, for it will be charged to a much greater density than the terminal, and outside of the latter it should be, preferably, kept away from the insulating support b to avoid sparks and damage. It may be useful to remark that rubber insulation should not be employed, as it might be rapidly deteriorated, and that the conductor should be of as large a diameter as practicable in order to obtain a larger surface and so reduce the density.

A modified embodiment of the invention is illustrated in Fig. 2, in which d' represents a cylindrical terminal partly cut off, which is mounted on an insulating support b' and connected to the high tension circuit through a heavily insulated wire c'. A conducting shell or hood a' in contact with the terminal d' is placed so as to surround the upper end of the support b' as indicated, and in this way serves, like the hood a in Fig. 1, for preventing the leakage of electricity to the ground.

So also in such cases as that shown in Fig. 3, when ropes k k are necessary for steadying a similar terminal d², the tendency of the high potential charge to escape along them may be prevented by placing a conducting shell or hood a² over the collar l, to which they are fastened.

Still another valuable application of the invention is illustrated in Fig. 4, in which a³ represents a shell with rounded contours and a smooth conducting outer surface secured to an ordinary post b² in any convenient manner. As stated with reference to Fig. 1, the former may be of any kind of material with a conducting coating on the outside.

The high tension wire c^2 is fastened to the shell a^3 as usual, care being taken, however, to establish a good electrical contact between both, as otherwise sparks will form, which may cause heating and damage. For the better understanding of the function of the device attention is called to the fact that the streamers, issuing from the wire, are apt to gradually heat the support and thus impair its insulating qualities or else, by slowly crawling over its surface, establish a good conducting path, permitting in either case the high pressure current to follow and to cause damage. But if, in accordance with this invention, the insulator is provided with a conducting coating on the outside, such injurious action will be rendered impossible. This way of supporting high tension lines is both cheap and reliable. Obviously, in all cases, the insulating supports of the terminals, hoods or shells should be carefully protected from water.

When practical conditions render it necessary to use a greater terminal capacity than can be conveniently obtained with one piece of metal, or with a smooth and unbroken surface, I either employ a number of shells as a properly arranged, or I make up a terminal of a plurality of elements each having a sufficiently large radius or curvature. Such a construction is shown in Fig. 5, in which the terminal D consists of a suitably shaped metallic frame, in this case a ring of nearly circular cross section, which is covered with small half spherical metal plates p p , thus constituting a very large conducting surface, smooth on all places where the electric charge principally accumulates.

The frame is carried by a strong platform which is expressly provided for safety appliances, instruments of observation, etc., and which in turn rests on insulating supports F F. These should penetrate far into the hollow space formed by the terminal, and if the electric density at the points where they are bolted in the frame is still considerable, they may be specially protected by conducting hoods a^4 , similar to those before described.

Apart of the improvements which form the subject of this specification, the transmitting circuit, in its general features, is identical with that described and claimed in my original patents Nos. 645,576 and 649,621, and in some constructive details with a modified arrangement of the same, which has been illustrated in my application of Jan. 15, 1901, Serial No. 4368, and for which rights have been reserved therein. The circuit comprises a coil A which is in close inductive relation with a primary C, and one end of which is connected to a ground-plate E, while its other end is led through a separate self-induction coil B and a metallic cylinder B' to the terminal D. The connection to the latter should always be made at, or near the center, in order to secure a symmetrical distribution of the current, as otherwise, when the frequency is very high and the flow of large volume, the performance of the apparatus might be impaired. The primary C may be excited in any desired manner, from a suitable source of currents G, which may be an alternator or condenser, the important requirement being that the resonant condition is established, that is to say, that the terminal D is charged to the maximum pressure developed in

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the circuit, as I have specified in my original patents before referred to. The adjustments should be made with particular care when the transmitter is one of great power, not only on account of economy, but also in order to avoid danger. I have shown that it is practicable to produce in a resonating circuit as E A B B'D^D immense electrical activities, measured by tens and even hundreds of thousands of horse-power, and in such a case, if the points of maximum pressure should be shifted below the terminal ^D along coil B, a ball of fire might break out and destroy the support F or anything else in the way. For the better appreciation of the nature of this danger it should be stated, that the destructive action may take place with inconceivable violence. This will cease to be surprising when it is borne in mind that the entire energy accumulated in the excited circuit, instead of requiring, as under normal working conditions, one quarter of the period or more for its transformation from static to kinetic form, may spend itself in an incomparably smaller interval of time, at a rate of many millions of horse-power. The accident is apt to occur when, the transmitting circuit being strongly excited, the oscillations impressed upon it are rendered in any manner, more or less suddenly, quicker than the free. It is therefore advisable to begin the adjustments with feeble and somewhat slower impressed oscillations, strengthening and quickening them gradually, until the apparatus has been brought under perfect control. To increase the safety I provide on a convenient place, preferably on terminal D, one or more elements or plates either of somewhat smaller curvature or

Per D
Per C

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smaller protruding more or less beyond the others (in which case they may be of larger curvature) so that, should the pressure rise to a value, beyond which it is not desired to go, the powerful discharge may dart out there and lose itself harmlessly in the air. Such a plate, performing a function similar to that of a safety valve on a high pressure reservoir, is indicated at v.

Per B Still further extending the principles underlying my invention, special reference is made to coil B and conductor B'. The latter is in the form of a cylinder with smooth or polished surface of a radius much larger than that of the half spherical elements p p, and widens out at the bottom into a hood a⁴, which should be slotted to avoid loss by eddy currents and the purpose of which will be clear from the foregoing. The coil B is wound on a frame or drum D¹ of insulating material, with its turns close together. I have, ~~namely~~, discovered that when so wound the effect of the small curvature of the wire itself is overcome and the coil behaves as a conductor of large radius ^{of} ~~or~~ curvature, corresponding to that of the drum. This feature is of considerable practical importance and is applicable not only in this special instance, but generally. For example, such plates as p p of terminal D, though preferably of large curvature themselves, need not be necessarily so, for provided only that the individual plates or elements of a high potential conductor or terminal are arranged in proximity to each other and with their outer boundaries along an ideal symmetrical enveloping surface of large curvature, the advantages of the invention will be more or less fully realized.

The lower end of the coil B -which, if desired, may be extended up to the terminal D- should be somewhat below the upper-most turn of coil A. This, I find, lessens the tendency of the charge to break out from the wire connecting both and to pass along the support F'.

When it is desirable for some reason or other to place the turns of the coil leading up to the terminal far apart, a conductor presenting everywhere, outwardly, a surface of a large radius of curvature, should be employed. In any case, however, whether the high-tension circuit leading up to the terminal is coiled or straight, instead of being itself of large curvature, it may be simply protected, on the outside, against the breaking out of the charge by plates or elements such as p p properly disposed.

Terminals or electrodes of large curvature are common, their behavior is well known and, in all probability, they are frequently supported on places of low electric density.

But they are always used in combination with opposite electrodes binding the charges and modifying their free distribution, for different ends and under conditions entirely disregarding and quite incapable of fulfilling, the cardinal requirements of my invention. For these reasons alone, neither in their particular functions, or purposes, or results, do they bear the slightest similarity to the constructive improvements above described. Moreover, high-potential effects of the character here chiefly contemplated have, to my best knowledge, only been produced by myself, and are obtainable only by devices of my own creation.

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The principal object of my present improvements is to provide a circuit, more especially a freely vibrating or resonating circuit which, while of comparatively small linear dimensions and electrostatic capacity will permit the storage of relatively considerable quantities of electricity without the dielectric being ruptured anywhere, thereby enabling the attainment of enormous differences of potentials. To indicate the range I may say, that I have in view electromotive forces of as many as several hundred millions of volts, which I can readily produce and safely control in the manner described and for which I have discovered various uses of transcending value and importance. The most significant constructive feature of the circuit is the arrangement of its outermost conducting boundaries or capacity elements, on which the high-potential charge chiefly accumulates, in symmetrical enveloping surfaces of large radii of curvature. It should be distinctly pointed out, however, that the virtues of the invention do not reside in any electrical properties of a terminal of large curvature as distinct from those possessed by a terminal of small curvature. A curved surface, to be large must needs be of great radius, but apart of this the latter might be left out of consideration. Not so in cases when oppositely charged terminals, or electrodes of different radii are brought in mutual relation. There the curvature gives to the terminals specific qualities upon which the effects sought for are, as a rule, essentially dependent. In applying my invention for the purpose of producing extremely high potentials, such as required in my system of transmission of electrical energy through the natural media, my aim is to give to the outermost conducting

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boundaries of a circuit of definite linear dimensions and capacity the greatest possible area. The charged surface being large, a considerable quantity of electricity may be stored upon it without the density being excessive, hence a very high potential may be attained before the dielectric is broken down disruptively. The boundary surface should be symmetrical as otherwise there will be an undue accumulation of the charge on some place which will impose a limit to the electromotive force obtainable. In designing apparatus such as illustrated in Fig. 5, for example, I generally calculate the densities and proportion the parts so that the distribution of the surface charge is more or less uniform. Obviously, however, this, while advantageous, is not essential as a much greater density can be allowed on those portions of the circuit which are protected by insulation. It should be stated, furthermore, that the constructive improvements described are wholly or in part applicable and useful for purposes other than that for which they are mainly intended.

Having described my invention and some of the uses to which it may be advantageously applied, I claim:

1. ~~The means described for preventing leakage of a~~
^{comprising}
 free charge, ~~comprising~~ a curved conducting surface, in combination with an insulating support secured thereto at a point of low electrical density.

2. The means described for preventing leakage of high tension electricity, comprising a curved conducting surface in combination with a conductor of relatively large radius of curvature, a coil of closely packed turns of relatively large radius of curvature, and an insulating support, as set forth.

3. In a circuit of high potential, means for preventing leakage of electricity into the air, consisting of a coil with closely packed turns of relatively large radii of curvature, as set forth.

4. An electrical terminal for high tension currents, in combination with an insulated conductor of large radius of curvature leading thereto, as set forth.

5. ~~A means for supporting high tension lines~~ comprising a conducting surface, and an insulating support secured thereto at a point of low electrical density, as set forth.

6. ~~An electric terminal for a resonating circuit~~ having a relatively large radius of curvature, in combination with an insulating support secured thereto at a point of low electrical density, as set forth.

7. ~~An electric terminal for a resonating circuit~~ consisting of a conducting surface of relatively large radius of curvature, supported from the inner or under side, as set forth.

8. An electric terminal for a resonating circuit composed of a plurality of ~~sections or~~ elements connected together at points of low electrical density, in combination with an insulating support, as set forth.

~~An electric terminal for a resonating circuit composed of a plurality of curved conducting surfaces, each having a relatively large radius of curvature, connected together at points of low electrical density, in combination with an insulating support, as set forth.~~

The combination with
10. ~~In a resonating circuit of high potential having curved conducting surfaces, of relatively large radii of curvature, one or more surfaces of smaller radii of curvature, for the purposes set forth.~~

resonating
11. A circuit having its outermost conducting boundaries ~~or capacity elements~~ on which the charge chiefly accumulates arranged in surfaces of large radii of curvature, as set forth.

resonating
12. A circuit whose outermost conducting boundaries ~~or capacity elements~~ on which the charge chiefly accumulates constitute a large area and are arranged in surfaces of large radii of curvature, as set forth.

13. A circuit adapted by construction and arrangement to distribute the surface charge with approximately uniform density, as set forth.

are adapted
14. A circuit whose outermost conducting boundaries constitute a large area and ~~which~~ by construction and arrangement ~~is adapted~~ to distribute the surface charge with approximately uniform density, as set forth.

15. A circuit having a plurality of capacity elements arranged in proximity to each other and in surfaces of large

curvature, as set forth.

16. A freely vibrating ~~or resonating~~ circuit having a plurality of capacity elements arranged in proximity to each other and in surfaces of large curvature, as set forth.

17. A freely vibrating ~~or resonating~~ circuit, having its outermost conducting boundaries arranged in surfaces of large curvature, as set forth.

18. A resonating circuit having its outermost conducting boundaries on which the charge chiefly accumulates arranged in symmetrical surfaces of large curvature, as set forth.

19. In a system for the transmission of ^{electrical} energy a freely vibrating circuit of high tension having its outermost conducting boundaries arranged in surfaces of large curvature, as set forth.

20. In a system for the transmission of ^{electrical} energy, a resonating circuit having a plurality of capacity elements, on which the charge chiefly accumulates, arranged in proximity to each other and in surfaces of large curvature, as set forth.

21. A resonating circuit whose outermost conducting boundaries on which the charge chiefly accumulates are arranged in surfaces of large curvature and which ^{are} supported on places of low density, as set forth.

22. A circuit comprising a part upon which the impulses or oscillations of a source are impressed and another part for raising the tension by resonance, the outermost boundaries ~~or capacity elements~~ of the latter part being arranged in surfaces of large radii of curvature, as set forth.

23. A circuit comprising a part in close inductive re-

lation to a second circuit, and another part adapted for raising the tension by resonance, the outermost conducting boundaries of the latter part being arranged in ^{surfaces} ~~surfaces~~ of large curvature, as set forth.

24. In a system for the transmission of ^{electrical} ~~energy~~ a circuit comprising a part in close inductive relation to a primary exciting circuit, and another part removed from the primary and adapted for raising the tension by resonance, the outermost boundaries of the latter part being arranged in surfaces of large curvature, as set forth.

25. A circuit comprising a part upon which oscillations of a source are impressed and another part for raising the tension by resonance, the latter part being supported on places of low electric density and having its outermost ^{conducting} ~~conducting~~ boundaries arranged in surfaces of large curvature, as set forth.

26. In a system for the transmission of ^{electrical} ~~energy~~, in combination with a transformer, a ^{resonating} ~~circuit~~ connected to its secondary having its outermost conducting boundaries arranged in surfaces of large curvature, as set forth.

27. In a system for the transmission of ^{electrical} ~~energy~~, in combination with a step up transformer, a circuit connected to its secondary and adapted for raising the tension by resonance, the outermost conducting boundaries of the said circuit being arranged in surfaces of large curvature, as set forth.

Witnesses:

(Kerr, Page & Cooper)
Attys

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Paper 5.

All communications respecting this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C. April 25, 1904.

Nikola Tesla,

C/o Kerr, Page & Cooper,

120 Broadway,

New York, New York.

Please find below a communication from the EXAMINER in charge of your application, #20,245, filed January 18, 1902, for Apparatus for Transmitting Electrical Energy through the Natural Media.

F. J. Allen
Commissioner of Patents.

This action is in response to amendment of April 15, 1904.

In line 10, page 1, "tention" should be changed to tension.

The serial number referred to in line 17, page 6, should be 43,368. It is required that lines 12-16, beginning with the word "and" in line 12, be canceled because it is improper to refer to a pending application inasmuch as the application may never become a patent.

In line 17, page 8, "namely" should be canceled. In line 19 of the same page, "of" should be changed to or.

In line 2, claim 1, the spelling of the third word should be corrected.

In line 4 of claim 23, the next to the last word is misspelled.

Claim 13 is rejected on the ground that it is merely a statement of function and, therefore, does not set out any construction of apparatus or arrangement of circuits.

The other claims are allowed.

Q. R. A.

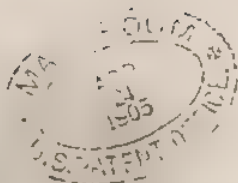
Rampell
Examiner, Division XVI.

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Serial No. 90,245

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Amendment 13

Filed Apr. 24, 1905

Division 16, Room 109.

Application of Nikola Tesla, Serial
No. 90,245, filed January 18th, 1902,
Apparatus for Transmitting Electrical
Energy Through the Natural Media.

New York, April 22nd, 1905.

Hon. Commissioner of Patents,

Sir:-

In the above entitled application we amend as follows in response to the official letter of April 25th, 1904:

- ✓ Page 1, line 10, change "tention" to: tension
- ✓ Page 6, line 15, cancel "4368" and insert: 43,363,
- ✓ Page 8, line 16, cancel the comma following "have"
- ✓ Same page, line 17, cancel "namely,"
- ✓ Same page, line 19, cancel "or" and insert: of
- ✓ Claim 1, line 2, change "conprise" to: comprise
- ✓ Cancel claim 13 and insert:

23. A circuit of high tension, having its outer boundaries, on which the free charge chiefly accumulates, arranged in a manner to produce a sensibly uniform electric surface-density, as set forth.

- ✓ Claim 23, line 4, change "surfaces" to: surfaces

- ✓ Insert the following additional claims:

28. ^{an electrode} A circuit of high potential, ^{having} the outer conducting boundaries of which are arranged in a manner to cause a sensibly uniform distribution of the free electric charge, as set forth described.

29. ^{conductors} A circuit of high potential, the outer boundaries of which are of large area and so arranged in space that the electric surface density on them will be approximately

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uniform, as set forth.

30. A high potential circuit of relatively small linear dimensions, the outer boundaries of which constitute a ~~relatively~~ large area and are arranged ~~in a manner~~ to cause a sensibly uniform distribution of the free charge on them, ~~as above specified.~~

31. A ~~high potential~~ circuit of relatively small linear dimensions and electrostatic capacity, the outer boundaries of which constitute a comparatively large area and are so disposed in space, that the electric density on them is sensibly uniform, ~~as described.~~

32. In apparatus of high tension, means for obtaining high potentials, consisting of a circuit of relatively small electrostatic capacity and large outer conducting boundaries, the latter being arranged in space in a manner to cause an approximately uniform distribution of the free charge, as ~~above~~ set forth.

33. In apparatus for the transmission of electrical energy through the natural media, means for obtaining high potential consisting of a resonating circuit of relatively small electrostatic capacity and outer boundaries of large area, the latter being arranged in a manner to cause a sensibly uniform distribution of the free charge on them, as described.

34. In apparatus for the transmission of electrical energy through the natural media, a resonating circuit connected to ground and to an elevated terminal, and having its outer boundaries arranged in a manner to prevent, on any of them, an undue accumulation of the free charge, as specified above.

A revolving
 35. In a circuit of high potential, means for pre-
 venting leakage of electricity, consisting of a coiled con-

ductor the turns of which are sufficiently close to minimize
 the effect of its small curvature in the distribution of the
 free charge, as set forth.

A revolving
 36. In a circuit of high potential, means for pre-
 venting leakage of electricity, consisting of a conductor ar-

ranged in space so as to minimize the effect of its small cur-
 vature in the distribution of the free charge, as set forth.

37. In a circuit of high potential, means for pre-
 venting the breaking out of the surface charge into the sur-
 rounding dielectric, consisting of a conductor arranged or pro-
 tected in such manner, that the effect of its small curvature
 in the distribution of the charge is minimized, as described.

37. 36. In a circuit of high tension, means for pre-
 venting leakage of the surface charge through the surrounding
 insulating medium, consisting of a conductor, *having its* the outer
 boundaries of which are arranged in such manner as to cause a
 sensibly uniform distribution of the charge, as set forth.

38-39. In apparatus of high tension, means for pre-
 venting leakage of electricity, *comprising one or more* consisting of a conductor or
 conductors, the outer surface-elements of which are so arrang-
 ed in space as to prevent an undue accumulation of the free
 charge on any of them, as set forth.

39. 40. In apparatus for the production of great elec-
 tromotive forces, an inductance coil or conductor supported
 on a place of relatively low potential and having its outer
 boundaries arranged in a manner to prevent, on any of them,
 an undue accumulation of the charge, as set forth.

41. In apparatus for the production of high ten-

sions, a self-inductor joined in series with an energizing circuit and having its outer boundaries arranged in a manner to prevent, on any of them, an excessive rise of the electrical surface density, as ^{set forth} ~~above described~~.

42. In apparatus for the production of powerful electrical oscillations, a self-inductor joined in series with an energizing circuit and a free terminal ^{of the kind described,} and having the elements of its outer surface disposed in space in a manner to prevent, on any of them, an undue rise of the electric density, as set forth.

~~43. As an element of a high potential transmitter or other apparatus for the production of high tensions, a self-inductor supported on a place of relatively low potential and arranged in space so as to prevent the breaking out of its surface charge, as set forth.~~

~~44. As an element of a high potential transmitter or other apparatus for the production of high tensions, a resonating circuit of relatively small linear dimensions and large outer surface, the latter being of a configuration such as to minimize the effect of small curvatures in the distribution of the free charge, as described.~~

45. In apparatus for the production of high potentials, a self-induction coil supported on a place of relatively low potential and extending to ^{the} ~~an~~ elevated terminal, and having its turns sufficiently close to minimize the effect of the small curvature of the conductor, as set forth.

Remarks:

We have not followed the suggestion of the Office in regard to the cancellation of the matter on page 6 of the

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specification relating to applicant's co-pending application, Serial No. 43,368 for the reason that a reference to this case is helpful in arriving at a correct understanding and appreciation of the invention herein set forth and claimed. It is thought that such reference is perfectly legitimate, and it is a custom which is very commonly pursued in instances of this kind.

No. claim 13 is believed to obviate the objections made by the Office against the original of that number, and is also thought to be allowable.

The additional claims have been carefully drawn, and are submitted for consideration and allowance.

Respectfully,

Kerr, Page & Cooper

Attorneys for applicant.

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To the Commissioner of Patents:-

Your petitioner, Nikola Tesla, a citizen of the United States and a resident of the City, County and State of New York, whose Post Office address is Waldorf-Astoria, New York, N. Y., represents that on January 18, 1902, he filed an application for letters patent for new and useful improvements in Apparatus for Transmitting Electrical Energy Through the Natural Media, Serial No. 90,245, which application was allowed May 5, 1905, but that he failed to make payment of the final fee within the time allowed by law. He now makes renewed application for letters patent for said invention, and prays that the original specification, oath, and drawings may be used as a part of this application.

Signed at New York, in the County and State of New York, this 29th day of April, 1907.

Nikola Tesla,

By *Kerr, Page & Cooper*
his attorneys.

To all whom it may concern:-

Be it known that I, Nikola Tesla, a citizen of the United States, residing at the Borough of Manhattan, in the City, County and State of New York, have invented certain new and useful improvements in apparatus for transmitting electrical energy through the natural media, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

In endeavoring to adapt currents or discharges of very high tension to various valuable uses, as the transmission of energy through wires from central plants to distant places of consumption, or the production of powerful effects or disturbances, perceptible at great distances through the natural media, I have encountered difficulties in confining the electricity to the highly charged conductors and preventing its leakage over the supports, or its escape into the ambient air, which takes place when the electrical surface density reaches a certain value.

The intensity of the effect or disturbance which may be produced by a transmitting circuit, one end of which leads to the ground and the other to a free or elevated terminal, is proportionate to the quantity of electricity displaced, which is determined by the product of the capacity of the terminal and the pressure and frequency of the currents employed. To produce an electrical movement of considerable magnitude it is necessary, to charge the terminal as highly as possible, for although a great quantity of electricity may be displaced by a terminal of large capacity charged to

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low pressure, there are disadvantages met with in many cases when the capacity of the terminal is made too large. The chief of these are to be found in the fact that the increase of capacity generally results in a lowering of the frequency of the impulses or discharges and in a diminution of the energy of vibration. This will be understood when it is borne in mind, that a circuit with a large capacity behaves as a slack spring, whereas one with small capacity acts like a stiff spring vibrating more vigorously. In order to attain, therefore, the highest possible frequency, which for certain purposes is advantageous and, irrespective of that, to develop the greatest energy in such a transmitting circuit, I employ a terminal of relatively small capacity, which I charge to as high a pressure as practicable. To accomplish this result I have found it necessary to so construct the elevated terminal that its surface, on which the electrical charge accumulates, has a large radius of curvature, or is entirely composed of elements having large radii of curvature, since the smaller the curvature the greater will be the electrical density and consequently, the lower the limiting pressure to which the terminal may be charged without electricity escaping into the air.

Such a terminal I mount upon an insulating support which I secure to its inner or under surface only, and I also connect the circuit to the same surface at a point where the electrical density is small. This plan of supporting a highly charged conductor I have found to be of great practical importance, and it may be usefully applied in many ways, as will be seen from the accompanying drawing, in which

Fig. 1 is a sectional view of a terminal and the upper portion of its support in a form which is generally typical of the invention.

Figs. 2, 3 and 4 are sectional views of devices modified in details, but adapted to carrying out the principle of the invention, and

Fig. 5 is a view in elevation and part section of an improved terminal of large surface with supporting structure and generating apparatus.

Referring to Fig. 1, a designates a hood or shell of conducting material of spherical form with an opening on the lower side, and b an insulating support which passes up through this opening and fits into a metallic socket g secured to the inner surface of the shell. A conductor c, which conveys the charge to the terminal, is led up into the shell ^{through} the same opening and connected to its inner or under side. Obviously the shell need not be entirely of metal, the only requirement being that its surface be conducting, and that the conductor c be connected to it on the inner side or, generally speaking, at a point of very low electrical density. In supporting the shell a in this manner, the leakage of the charge through the post b is prevented, while the large curvature of the outer surface which should be smooth and, if possible, polished, prevents the escape into the air and allows a large quantity of electricity to be accumulated on the terminal, notwithstanding its small capacity. The wire c should be heavily insulated and preferably kept away from the insulating support b.

A modified embodiment of the invention is illustrated in Fig. 2, in which d' represents a terminal in the form of a cylinder, which is mounted on an insulating support b' and connected to the circuit through a heavily insulated wire c'. A conducting shell or hood a' in contact with the terminal d' is placed so as to surround the upper end of the support b', where it is secured to the terminal and in this way serves as the hood a in Fig. 1 for preventing the leakage of the electricity to the ground.

So also in such cases as that shown in Fig. 3, when it is necessary to use ropes k k as guys to support a standard or mast d² used as a terminal, the tendency of the high tension currents to escape and leak to the ground along the ropes may be prevented by placing a conducting shell or hood a² over the collar l, to which the ropes are fastened.

Still another valuable application of the invention is illustrated in Fig. 4, in which b² represents a post such as used for supporting wires or cables, and a³ a shell with rounded contours and a smooth conducting outer surface, which is secured to the post in any convenient manner. As stated with reference to Fig. 1, the shell may not be wholly of metal, but may be of any kind of material with a conducting coating on the outside. The high tension wire c² of a power transmission plant is fastened to the shell a³ as to an ordinary insulator, care being taken, however, to establish a good electrical contact between the wire and shell, as otherwise sparks may pass between them, which may cause heating and damage. This manner of supporting high tension lines is both cheap and reliable. Obviously, in all cases the supports of the terminals, hoods or shells should be carefully protected from water.

When practical conditions render it necessary to use a larger terminal than can be conveniently made of one piece of metal or with a perfectly smooth and unbroken surface, I construct it of a plurality of elements each having a suitably large radius of curvature. A very desirable construction in such cases is that shown in Fig. 5, in which F F are insulating supports, upon which the terminal D is mounted. The latter consists of a metallic frame in the form of a ring of nearly circular cross section, which is covered with small half spherical metal plates p p connected together, thus constituting a conducting surface curved and smooth at all places where the electrical charge principally accumulates. The supports F-F should penetrate far into the hollow space formed by the terminal, and if the electrical surface density at the points where they are bolted to the metallic frame is not small enough, they may be specially protected by conducting hoods, as before described.

The transmitting circuit consists of a spirally wound conductor A B, one end of which is connected to a ground plate E and the other through a metallic cylinder B' to the center of terminal D. The connection should always be made so as to secure a symmetrical distribution of the current flowing into and out of the terminal, as otherwise, in cases when the frequency is very high and the currents of large volume, the performance of the apparatus might be impaired. The transmitting circuit referred to may be excited in any desired manner, as by a primary C, energized from a suitable source of currents G, which may be an alternator or condenser, the important requirement being that the resonant con-

dition is established when the apparatus is at work, that is to say, that the terminal D is charged to the maximum pressure developed in the circuit. The adjustment should be made with particular care when the apparatus is one of great power, not only on account of economy, but also in order to avoid danger. I have shown that it is practicable to produce in a resonating circuit as E A B B' D an immense electrical movement, measured by rates of tens and even hundreds of thousands of horse power, and in such a case, if the points of maximum pressure should be shifted below the terminal D, say along coil B, a ball of fire may break out and destroy the support F or anything else in the way. To increase the safety, I provide on a convenient place, preferably on terminal D, one or more elements or plates of somewhat smaller curvature, so that, when a certain maximum pressure is reached, beyond which it is not desired to go, the powerful current may dart out there and lose itself harmlessly in the air. Such a plate, performing a function similar to that of a safety valve on a high pressure reservoir, is indicated at v.

Still further extending the principles underlying my invention, special reference is made to coil B and conductor B'. The latter is in the form of a cylinder with smooth or polished surface and preferably of a radius much larger than that of the half-spherical elements p q, and widens out at the bottom into a hood a⁴, which should be slotted to avoid loss by eddy currents and the purpose of which will be clear from the foregoing. The coil B is wound on a drum bl, which should be of still larger radius, and its turns are packed closely

together.) I have discovered that when so wound the effect of the small curvature of the wire itself is overcome and the coil behaves as a conductor of a large radius of curvature, corresponding to that of the drum. This feature is of considerable practical importance. The lower end of the coil B should be somewhat below the uppermost turn of coil A. This, I find, lessens the tendency of the current to pass along the support F'.

When it is desirable for some reason or other to place the turns of the coil leading up to the terminal far apart, a conductor presenting everywhere, outwardly, a surface of a large radius of curvature, should be employed.

Having described my invention and some of the uses to which it may be advantageously applied, I claim:

1. The means described for preventing leakage of high tension electricity, comprising a curved conducting surface, in combination with an insulating support secured thereto at a point of low electrical density.

2. The means described for preventing leakage of high tension electricity, comprising a curved conducting surface in combination with a conductor of relatively large radius of curvature, a coil of closely packed turns of relatively large radius of curvature, and an insulating support, as set forth.

3. In a circuit of high potential, means for preventing leakage of electricity into the air, consisting of a coil with closely packed turns of relatively large radii of curvature, as set forth.

4. An electrical terminal for high tension currents, in combination with a conductor of large radius of curvature leading thereto, as set forth.

5. An electric terminal for high tension currents provided with a conducting surface, in combination with an insulating support secured thereto at a point of low electrical density, as set forth.

6. An electric terminal for high tension currents, having a relatively large radius of curvature, in combination with an insulating support secured thereto at a point of low electrical density, as set forth.

7. An electric terminal for high tension currents provided with a conducting surface of relatively large radius of curvature, and adapted to be supported from the inner or

under side, as set forth.

8. An electric terminal for high tension currents composed of a plurality of sections or elements connected together at points of low electrical density, in combination with an insulating support, as set forth.

9. An electric terminal for high tension currents composed of a plurality of curved conducting surfaces, each having a relatively large radius of curvature, connected together at points of low electrical density, in combination with an insulating support, as set forth.

10. In a circuit of high potential having conducting surfaces of relatively large radii of curvature, one or more surfaces of smaller radii of curvature, for the purpose set forth.

11. The combination of an insulating support, of a conducting hood or shell of relatively large radius of curvature, mounted thereon, the point of connection or support being within the shell above the edge or orifice of the same, whereby leakage to the ground of electricity, with which the hood or shell may be charged, is prevented, as set forth.

Witnesses:

M. Lannon
Richard H. Brown

Nikola Tesla

371-10

2-200.

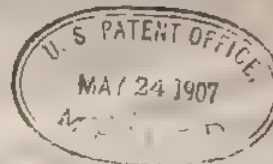
Div. XVI, Room 109. C.E.N.
 All communications should be addressed to
 "The Commissioner of Patents,
 Washington, D. C."

Paper No. 8

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
 UNITED STATES PATENT OFFICE,

Nikola Tesla, WASHINGTON, D. C., May 24, 1907.
 C/o Kerr, Page & Cooper,
 149 Broadway,
 New York, New York.



Please find below a communication from the EXAMINER in charge of your application,
 #371,817, filed May 4, 1907, renewal of #90,245, filed January
 18, 1902, for Apparatus for Transmitting Electrical Energy Through
 the Natural Media.

H. J. Allen
 Commissioner of Patents.

This action is in response to applicant's communica-
 tion of May 4, 1907.

Reference to a copending application on page 6 must
 be canceled. It seems that said application has been abandoned.
 In any case this invention is of such a nature that the disclos-
 ure should be complete without reference to the other application.

The character of the "suitable source of currents G",
 mentioned at the foot of page 6, should be more fully set forth.

It is thought that "D" should be D' in line 9, page 7.

It is required that lines 14 to 20, page 7, shall be
 made more definite. What "period" is referred to?

Does B conduct as a helix, or as a cylinder? Judging
 by line 16, page 8, the latter is the way, but in this case it
 is doubtful whether the cylinder should be called a "self-induc-
 tion coil", (line 19, page 8). Full explanation is required.

Lines 5 to 14, page 9, must be illustrated or the de-
 scription canceled.

The last four lines of page 9 must be canceled on the
 ground that they form no necessary or proper part of the dis-
 closure of this invention.

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#371,817.

2.

Lines 8 to 12, page 10, must be canceled for reasons similar to those just stated.

The spelling of "boundaries" at the top of page 11 should be corrected.

The alternatives in many of the claims are objectionable as "inner or under side", claim 7, "sections or elements" in claim 8, "conducting boundaries or capacity elements" in claim 11. See also claims 12, 37 and 40 for similar instances.

It is presumed that the "insulated conductor" of claim 4 is the coil B in Fig. 5, but the examiner does not find in the specification any statement that it is insulated. Full explanation is required.

The examiner does not find the "plurality of . . . surfaces, each having a relatively large radius of curvature" of claim 9. The surfaces p do not have a large radius of curvature. See line 3 from the bottom of page 5 where they are referred to as "small half spherical metal plates p p". It is questioned whether applicant can make this claim. It is desired that claim 10 be pointed out by applicant. Where is there shown a plurality of conducting surfaces of relatively large radii of curvature in combination with one or more surfaces of smaller radii of curvature? Claims 11, 12 and 15 to 27, inclusive, are subject to questions similar to those here directed against claims 9 and 10. It is believed that the general contour of the element D constitutes only one surface.

Claims 1 and 5 are rejected on the patent to Luscomb, et al., 578,825, March 16, 1897, Class 173, Insulators, Conductor Holders.

Claims 2, 3, 4, 22, 35, 36, 37, 40, 41, 42, 43 and 45 are rejected on the Oudin resonator disclosed on page 15 et seq. of

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#371,817.

Ducrotet's Notice Generale sur les Courants de Haute Fréquence et de Haute Tension, published at Paris under date December, 1900. A copy of this publication can be seen at Room 109, Patent Office. The outer coating of one of the jars L L' is connected to the lower end of the coil, while the outer coating of the other jar is connected to the adjustable terminal G. The "curved conducting surface" of claim 2 is the knob B and the "conductor of relatively large radius of curvature" is the standard that supports the knob. The "coil of closely packed turns" is coil O. This is stated to be of uninsulated wire on an insulating core. In other word. the reference shows air insulation between the turns where applicant (it is conjectured) shows solid insulation. Hence the convolutions are closely packed in either case, probably as close as may be consistently with preservation of the insulation. In this rejection of claim 22 it is assumed that "surfaces of large radii" should be a surface of large radius.

Claims 7, 10, 13, 14, 17, 18, 19, 26, 27, 28, 29, 30, 31, 32, 33 and 44 are rejected on either the above Oudin reference or on Kincaide, 689,096, of record. The element b at the left of the figure in the latter reference is the "conducting surface . . . supported from the inner or under side". In the Oudin reference, said element is the knob B.

Claims 11, 12, 38 and 39 are rejected on any of the references cited in the foregoing part of this letter.

Claim 21 is rejected on the above cited Kincaide reference.

Claim 34 is rejected on the above cited Oudin reference in connection with any patent showing a grounded oscillator, for example either of applicant's patents of record.

Claims 6 and 8 are allowed.

Claims 9, 15, 16, 20, 23, 24 and 25 will be allowed if

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#371,817.

4.

corrected as indicated earlier in this letter. For example, in claim 9, line 3, "large" should be small; and in claim 15, line 2, "surfaces" should be a surface.

Objection is made to claims 13, 14, 28 to 34 and 36 to 45 on the ground that they are functional, that is, they attempt to define the structure sought to be claimed by stating its function rather than by stating the combination of structural elements.

All the claims are rejected except claims 6, 8, 9, 15, 16, 20, 23, 24 and 25, and of these, all but claims 6 and 8 are subject to correction before they may be allowed.

Richmond

Wm A Kinman
Examiner, Division XVI.

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PAPER NO. 17
AMENDMENT (1)

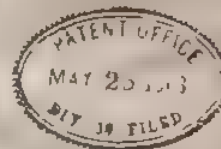
Division VI.

Room 103.

Application of Nikola Tesla,
Ser. No. 371,817, filed May 4, 1907,
for Apparatus for Transmitting Electrical Energy
through the Natural Media.

Hon. Commissioner of Patents,

Sir:-



Page 6, line 12, erase the matter beginning
with "and," after "549,521", down to the end of the
sentence.

Page 7, line 9, change "D" to D'.

Page 9, cancel the paragraph beginning with line
6.

Same page, cancel the matter beginning with
line 4 from the bottom,
"moreover", down to the end of the sentence.

Page 10, cancel lines 8 to 12 inclusive.

Correct the spelling of "boundaries" at the top
of page 11.

REMARKS:

The character of the "suitable source of currents",
mentioned at the foot of page 6, is immediately thereafter
stated to be an alternator or condenser. Both produce
alternating currents, as of course must be the case where
inductive or transformer action is to be employed. We
are at a loss to understand why any further explanation
should be need on this point, as the nature of the currents
produced by an alternator and from the discharge of a
condenser are well understood. Similarly, the matter in
lines 14 to 20, page 7, seems to be entirely clear; ob-
viously, no other but the "natural" period of the circuit
can be meant. The use of the simple term "period"

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42

where the natural period of a circuit is meant is a common usage in scientific works.

Regarding the coil B, as described on page 8, beginning line 16, it seems clear that the coil should conduct as a helix, since its turns are insulated from each other. But, it behaves as if it were a conductor of large radius of curvature, and in its electrostatic effect it is cylinder, or very nearly such.

The "insulated conductor" of claim 4 is the coil B in Fig. 5, as the Examiner states, and the same is shown as being insulated from the ground.

The references quoted in the official letter, namely, Luscomb et al, No. 578,825, Kincaide No. 689,096, and the description of the so-called "Oudin resonator", do not contain the slightest hint or suggestion of applicant's invention. Whatever similarity there may be is apparent only. To understand applicant's invention it is best to resort to a mechanical analogue. The object of the invention is to provide an electrical circuit which will, at all points, prevent the escape of electricity; this result being attained by the artifices described and claimed. Unless every part of the circuit is so constructed or organized, the improvement fails. It is exactly as if a boiler or system of pipes, designed for very high pressure, with excessively thick walls, were provided, but left defective or weak in one spot. It would be useless to have the walls strong if there were a single point of weakness through which a leak might occur. This is the case in the references cited by the Patent Office, but

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is not true in applicant's invention. The Audin resonator is an improvement of the applicant, and has been described by him long before the publication referred to by the Examiner. See applicant's paper before the American Electro-Therapeutic Society in 1898.

As for the objection to certain claims on the ground that they are functional, it must be remembered that the invention is broad, and that broad language in claiming the same therefore seems to be fully justified.

Respectfully submitted,

Kerr, Page & Cooper

2-460.

Div. VII Room 109
 "The Commissioner of Patents,
 Washington, D. C."

F.H.

Paper No. 10

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
 UNITED STATES PATENT OFFICE.

WASHINGTON, D. C., AUG. 28, 1908.

Nikola Tesla,

C/o Kerr, Page & Cooper,

149 Broadway,

New York, N. Y.

Please find below a communication from the EXAMINER in charge of your application.

S. No. 371,817, filed May 4, 1907, Apparatus for Transmitting
 Electrical Energy through the Natural Media.



Commissioner of Patents

This action is in response to amendment filed May
 23, 1908.

The source G in Figure 5 should be illustrated as an
 alternator or condenser, as stated on latter part of page 6.

The reference character D' is employed to designate
 the terminal, as stated in line 9 of page 7, and also in-
 dicates the drum of insulating material, as stated in line
 15 of page 6. Correction of the specification and also of
 the drawing should be made correspondingly. The insulating
 drum should be shown according to the draftsman's chart.

The feature of providing the hood a⁴ with slots should
 be illustrated; attention is called to line 15 of page 8.

Claims 9, 10, 11, 12 and 15 to 27 are again objected
 to for the reason that the feature specified in said claims,
 to wit, "plurality of x x x x surfaces, each having
 a relatively large radius of curvature" is not descriptive
 of applicant's device. The description of the metal plates
 E, as on page 5, line 5 from bottom, shows that said spherical
 plates are of small radius of curvature.

Claims 7, 8, 10, 11, 12, 37, 39, 40, 43 and 44 are ob-
 jected to in that the same include alternative expressions.
 Attention is called to ex parte Phillips, 135 O. C., page 1801.

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43

371,817 -- 2.

Claims 13, 14, 28 to 34, inclusive, and 36 to 45, inclusive, are rejected on the ground that each is functional; said claims should be amended to include positively the essential elements necessary to produce the result recited in said claims.

Claim 1 is rejected upon the device shown in Figure 721 of Ganot's Elementary Physics, 15th Edition, Longmans, Green & Co., 1902. The pear-shaped surface which is shown here serves to collect a charge of high potential, and is supported by an insulator at a point of low electrical density. This device may be found in the earlier editions of Ganot's Treatise.

Claim 1 fails to define from the Faraday spherical condenser as illustrated in Thompson's Elemt. Lessons in Electricity and Magnitude, MacMillan Co., 1905, page 280. The sphere A is supported at a point of low electrical density.

Claims 4, 5, 6, 7, 8, 9 are rejected upon each of the references cited against claim 1.

Claim 10 is rejected for the reason that it is incomplete and fragmentary. Claim 10 is further rejected upon the Faraday condenser, since there would be no invention in connecting Faraday's condenser in substitution of any condenser in the well known oscillating circuit.

Claims 11, 12, 13, 14 to 45, inclusive, are each rejected on the ground recited in the rejection of claim 10, to wit, that it would not involve invention to substitute the Faraday condenser in the well known oscillating circuit, which circuit may include the secondary of a transformer in the well known way.

Claims 2 and 3 appear to be allowable.

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L. C. H.
Acting Examiner, Division XVI.

THOMAS G. KERR
 PARKER A. PAGE
 DRURY W. COOPER
 JOHN CAMPBELL HERR
 L. B. HAYWARD
 STURGIS & DUNHAM

LAW OFFICES OF

KERR, PAGE, COOPER & HAYWARD.

#11
 SINGER BUILDING
 149 BROADWAY
 NEW YORK CITY



August 26, 1909

Hon. Commissioner of Patents,
 Washington, D.C.

Sir:

Attention of Draftsman's Division.

In the application of Nikola Tesla, Serial No. 371,817, renewed May 4, 1907, Apparatus for Transmitting Electrical Energy through the Natural Media, Div. 16, Room 109, please have the Office Draftsman make the following corrections in the drawing:

ACCOUNT
 In Fig. 5, change the part G to the conventional representation of a condenser.

In the same figure, blacken the part D', on which the cable B is wound, to indicate that said part is of insulating material.

Same figure, show the part a' to be slotted, as in the annexed sketch.

Charge cost of above to our deposit account.

Very respectfully,

Kerr, Page & Cooper

Enc.

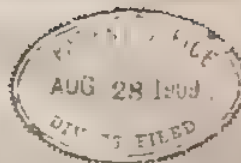
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Div. 16, Room 109.

Application of Nikola Tesla,
Serial No. 371,817, renewed May 4, 1907.
Apparatus for Transmitting Electrical
Energy through the Natural Media.



New York, August 26th, 1909.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

In the above entitled application we amend as follows:

✓ Page 7, line 9, change D¹ to: D

✓ Claim 1, cancel line 1, and insert: The combination
with a high tension oscillating circuit, of means as described
for preventing leakage of

✓ Claim 1, lines 2 and 3, cancel "in combination with"
and insert: and -

✓ Claim 5, line 1, cancel "A means for supporting high
tension lines" and insert: The combination with a high tension
line, of a support therefor

✓ Claim 6, line 1, cancel "An electric terminal for a
resonating circuit" and insert: The combination with a resonating
circuit, of an electric terminal therefor

✓ Claim 6, lines 2 and 3, cancel "in combination with"
and insert: and

✓ Claim 7, line 1, cancel "An electric terminal for a
resonating circuit" and insert: The combination with a resonating
circuit, of an electric terminal

✓ Claim 7, line 2, before "conducting" insert: hollow

✓ Claim 7, line 3, cancel "supported", and after "cur-
vature" insert a comma, and after the comma insert: and means

for supporting the same

✓ Claim 7, line 3, cancel "or under"

✓ Claim 8, line 2, cancel "sections or"

✓ Claim 9, line 1, cancel "An electric terminal for a resonating circuit" and insert: The combination with a resonating circuit, of an electric terminal therefor,

Per J. ✓ Claim 9, line 2, cancel the comma after "surfaces".

✓ Same line, cancel "each"

✓ Claim 9, line 3, cancel "having a relatively large radius of curvature,"

✓ Claim 9, line 4, before "at" insert: and supported

✓ Claim 9, lines 4 and 5, cancel "in combination with an insulating support,"

✓ Claim 10:

✓ Line 1, cancel "In" and insert: The combination with

✓ Line 2, before "conducting" insert: curved

✓ Same line, after "surfaces" insert a comma,

✓ Same line, cancel "of relatively large radii of curvature,"

✓ Line 3, cancel "radii of"

✓ Lines 3 and 4, cancel "for the purposes set forth" and insert: to permit the escape of the charge at a predetermined density, as set forth.

Per J. ✓ Claim 11:

✓ Line 1, after "A" insert: resonating

✓ Line 2, cancel "or capacity elements"

✓ Line 3, before "as" insert: to permit the accumulation of a large charge without leakage,

Per J. ✓ Claim 12:

✓ Line 1, after "A" insert: resonating

✓ Lines 1 and 2, cancel "or capacity elements"

✓ Line 4, before "as" insert: to permit the accumulation
 of a large charge without leakage,

Per J

✓ Claim 13, line 3, cancel "in a manner".

✓ Claim 14:

✓ Line 2, cancel "which" and insert: are adapted

✓ Line 3, cancel "is adapted"

✓ Claim 16, line 1, cancel "or resonating"

✓ Claim 17, line 1, cancel the comma after "vibrating".

✓ Same line, cancel "or resonating"

✓ Claim 19, line 1, after "of" insert: electrical

✓ Claim 20, line 1, after "of" insert: electrical

✓ Claim 21, line 3, cancel "is" and insert: are

✓ Claim 22, line 4, cancel "or capacity elements"

✓ Claim 24, line 1, after "of" insert: electrical

✓ Claim 25, line 5, change "ductory" to: ducting

✓ Claim 26, line 1, after "of" insert: electrical

✓ Line 2, before "circuit" insert: resonating

✓ Claim 27, line 1, after "of" insert: electrical

✓ Claim 28:

✓ Line 1, cancel "A" and insert: An oscillating

✓ Same line, cancel "the" and insert: having its

✓ Line 2, cancel "of which are"

✓ Same line, cancel "in a manner"

✓ Line 4, cancel "described" and insert: set forth.

✓ Claim 29, line 1, after "A" insert: resonating

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✓ Same line, after "outer" insert: conducting

✓ Claim 30:

✓ Line 3, before "large" insert: relatively

✓ Same line, cancel "in a manner"

✓ Lines 4 and 5, cancel "as above specified" and in-

sert: to permit the accumulation of a large charge, as set forth.

Per 8.
✓ Claim 31:

✓ Line 1, cancel "high potential" and insert:
resonating

✓ Line 4, after "space" cancel the comma.

Line 5, after "uniform" insert a comma.

✓ Line 5, cancel "as described" and insert: to per-
mit the attainment of high potentials, as set forth.

✓ Claim 32: last line, cancel "above"

✓ Claim 35: Line 1 cancel "In a" and insert: A resonating

✓ Lines 1 and 2, cancel "means for preventing leakage
of electricity consisting of" and insert: a portion of which com-
prises

✓ Line 5, before "as" insert: whereby leakage is
prevented,

✓ Claim 36:

✓ Line 1, cancel "In a" and insert: A resonating

✓ Lines 1 and 2, cancel "means for preventing leak-
age of electricity consisting of" and insert: a portion of which
comprises

✓ Cancel Claim 37.

✓ Claim 38:

✓ Cancel the matter beginning with "means" in line
1, down to and including "of" in line 3.

- ✓ Line 3, cancel the comma after "conductor"
- ✓ Line 3, cancel "the" and insert: having its
- ✓ Line 4, cancel "of which are"
- ✓ Same line, cancel "in such manner as"

Last line, before the comma following "charge"

insert: thereon and thereby permit the accumulation of a great charge,

Ok. D. F.

✓ Claim 39:

- ✓ Line 2, cancel "consisting of a conductor or"
- ✓ and insert: comprising one or more
- ✓ Line 3, cancel the hyphen between "outer" and "surface"
- ✓ Same line, insert a hyphen between "surface" and "elements"
- ✓ Same line, cancel "so"
- ✓ Line 4, cancel "as"

✓ Claim 41, last line, cancel "above specified" and insert: set forth.

✓ Claim 42, line 3, cancel the comma after "terminal" and insert: of the kind described,

✓ Claim 43:

- ✓ Line 1, cancel "as an element of" and insert: In
- ✓ Cancel line 2.
- ✓ Line 3, before "self-inductor" insert: a
- ✓ Lines 4 and 5, cancel "so as to prevent the breaking out of its surface charge and insert: to permit the accumulation of a great charge,

✓ Claim 44:

- ✓ Cancel line 1.

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✓ Line 2, cancel "or other" and insert: In
 ✓ Line 3, after "and" insert: having relatively
 ✓ Line 4, cancel the commas after "surface" and "con-
 figuration"

✓ Same line, cancel "the latter being"

✓ Claim 45:

✓ Line 2, after the comma following "tials" insert:
 in combination, an elevated terminal of the kind described, and

✓ Line 3, cancel "an" and insert: the

✓ Renumber claims 38 to 45 inclusive.

Remarks.

The error in the use of the letter D¹ is corrected above, and the Office Draftsman has been directed to make the necessary changes in the drawing to show the part G as a condenser and to show the part a⁴ slotted; also to illustrate the drum D¹ as of insulating material.

It will be apparent at a glance that claims 8, 9 and 10 are not now open to the objection urged in the last official letter in regard to the radii of curvature of the conducting surfaces. In claim 12 it is to be noted that the "conducting boundaries", (for example the small elements p, and the conductors B and C), are arranged in surfaces of large radii of curvature. That is, the terminal, as a whole, has a large radius of curvature, as have also the coils B and C. Similarly in claims 15 to 27 inclusive.

The alternative expressions in claims 7, 8, 11 and 12 have been cancelled, but it is believed that claim 10 is not properly open to the objection referred to. The "surfaces of smaller curvature" are the more pointed elements p, and to

specify "one or more" means a mere duplication of such parts. This mode of expression has always been permissible under the Patent Office practice. Similarly in claims 38 and 39, (former 39 and 40), the conductors referred to are B and C, which may be duplicated without in any way affecting the invention. Claims 42 and 43, (former 43 and 44), have been corrected.

It is believed that claims 13, 14, and 28 to 33 are not fatally functional. If, as appears to be the fact, applicant is the first to produce a sensibly uniform distribution of surface density on a high tension circuit, by arrangement of its parts, he should be permitted to word his claim in the broadest possible language. It is to be noted, however, that applicant is not claiming any high tension circuit on which the surface density is uniform, but one in which the arrangement or construction of the outer conducting boundaries effects the desired distribution, so that the claims are in fact perfectly definite as to the means employed. Similar considerations apply to claims 36 to 44.

Claim 1 has been amended to cover a combination instead of a single element, as the combination is distinctly novel the claim is believed to be allowable.

Claims 2 and 3 are allowed.

Claim 4 is also a combination, and the "conductor of large radius of curvature" (coil B) is not disclosed in the reference. Similar considerations apply to claims 4 to 9. All these claims, as amended, cover combinations which produce new results, and they are therefore thought to be allowable.

As for claim 10, the Faraday disclosure does not include a resonating circuit of high potential and a surface of "smaller curvature", or any element having an equivalent function, to permit the escape of the charge as in applicant's invention.

The remaining claims are also differential from the Faraday disclosure. For instance, claims 11 and 12 call for a resonating circuit, which is obviously not found in the reference.

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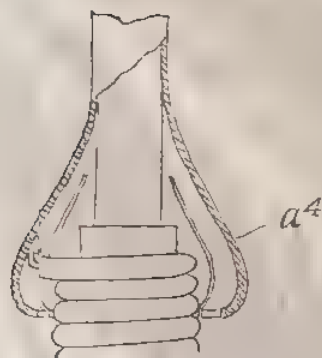
Moreover, each of the claims calls for a circuit in which the surface density is substantially uniform; but the inclusion of the Faraday condenser in "the well known oscillating circuit" would not by any means produce such a result. The density on the condenser might be uniformly distributed, but on the circuit as a whole the density would be far from uniform. On a thin wire or "antenna" the charge would escape too fast to permit the accumulation of a large charge and hence would defeat applicant's purpose. The entire circuit must have the same density on all its parts, and this result would certainly not be brought about by merely adding Faraday's device to an oscillating circuit of the prior art.

Respectfully submitted,

Wm. Page & Cooper

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Div. VII, Room 109
 All communications should be addressed to
 "The Commissioner of Patents,
 Washington, D. C."

P.M.

Paper No. 12
 All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR,
 UNITED STATES PATENT OFFICE,

WASHINGTON, D. C., Sept. 30, 1909.

Nikola Tesla,
 C/o Kerr, Page & Cooper,
 149 Broadway,
 New York, N. Y.

Please find below a communication from the EXAMINER in charge of your application,
 S. No. 371,817, filed May 4, 1907, Apparatus for Transmitting
 Electrical Energy through the Natural Media.

E. B. Moore

Commissioner of Patents.

This action is in response to amendment filed Aug.
 27, 1909.

Page 2, line 18, after "so" cancel the comma.

Considerable confusion exists throughout the
 specification and claims in regard to the use of the
 terms "large curvature" and "small curvature". It is
 pointed out that a large sphere is a body having a large
 radius of curvature but having small curvature, whereas
 a small sphere is one having a small radius of curvature
 but a large curvature. Attention is called, for instance,
 to the sentence commencing in line 20 of page 2. This
 is not in agreement with statements made by applicant in
 other parts of the specification. The same inconsistencies
 occur in the claims. Attention is called, for instance,
 to claim 10 in which applicant calls for one or more sur-
 faces of smaller curvature to permit the escape of the
 charge at a predetermined density. Applicant has as a
 matter of fact shown in the figures and explained in the
 specification that the surfaces for permitting this escape
 have larger curvature, that is, are surfaces of small
 radius of curvature. Later, in such claims as 15, 16, i.e.,

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371,817 -- 2.

applicant refers to the small elements p as being surfaces of large curvature. This expression is correct, but the former is not. Applicant is urged to carefully review the specification and claims with this understanding of the meaning of the terms used clearly before him. The present inconsistencies are such as to make an action on the merits of the claims very difficult and unsatisfactory since different interpretations must be given to the same expression in different places.

Attention is called to such claims as 22 and 23. These claims are for different specific forms. If applicant elects as his specific form that shown in Figure 5, he certainly cannot be allowed to claim outermost boundaries arranged in surfaces of large radii of curvature, for certainly the outermost boundaries are surfaces of small radii of curvature or large curvature as called for in claim 23. Applicant should maintain a proper line of division in regard to this.

With the claims and specification in their present condition the Office does not feel justified in taking further action on the merits of the claims at this time.

Uncl

Wm A. Kinnear
Examiner, Division XVI.

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371-58

Division 16, Room 109.
 Application of Nikola Tesla.
 Ser. No. 371,817, filed May 4, 1907.
 Apparatus for transmitting Electrical
 Energy Through the Natural Media.

New York, Sept. 27, 1910.

Hon. Commissioner of Patents,

Sir:

In the above entitled application we amend as follows:-

✓ Page 3, line 18, after "so" cancel the comma.

Remarks.

It is believed that the confusion in the use of the terms "large curvature" and "small curvature" is apparent rather than real. In the sentence referred to as commencing in line 20 of page 2 it is stated that "the outside ideal surface enveloping them is of a large radius", and this is certainly true. Nowhere has applicant referred to such a surface as one of small curvature, but on the contrary uses in that connection the term "large", implying plainly that large curvature and large radius of curvature are in effect synonymous. On the other hand, the term "small curvature" is consistently employed where the radius of curvature is small. It is possible that the Examiner is correct in his view as to the use of the terms referred to, namely, that a surface of large radius of curvature is of small curvature, and vice versa, and ordinarily we should feel no hesitation in complying with the suggestion that the specification be revised on such a point. In this case however the specification, written some years ago, was prepared with extreme care, and we are therefore reluctant to make the changes suggested. By some oversight, which, as the Examiner will see, might readily occur, one or more places

where such correction will be needed might be overlooked and the specification would contain conflicting uses of the terms, leading to serious confusion. However, if the Examiner insists we will conform with his views on the subject.

As to claims 22 and 23, it is believed that the Examiner has not appreciated the fact that the surfaces in which the "outermost boundaries" lie are ideal surfaces, - the ones referred to in the sentence quoted above, although the individual elements themselves may be of small radii of curvature or small curvature. As clearly set forth in the specification the applicant aims at obtaining a very large aggregate area, of the elements which lie on an enveloping or ideal surface of large curvature, and the advantages of the invention will be secured if the aggregate outer conducting surface is large although the individual elements of same may be of small radius of curvature. The Examiner will therefore see that claims 22 and 23, while they may differ in scope, do not differ in species.

Reconsideration is requested.

Very respectfully,

Ken. Page & Co. Inc.
Pat. Attys.

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Div. III Room 109

2 200

Paper No. 15Address only
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Washington, D. C."

P.H.

All communications respecting this
application should give the serial number,
date of filing, and title of invention.DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON November 15, 1910.

Nikola Tesla,

C/o Kerr, Page & Cooper,

149 Broadway,

New York, I. Y.

*Please find below a communication from the EXAMINER in charge of your application.*S. No. 371,817, filed May 4, 1907, Apparatus for Transmitting
Electrical Energy through the Natural Media, renewal of No.
90,245.*E. B. Moore.*

Commissioner of Patents.

This action is in response to amendment filed Sept.
28, 1910.

Applicant's arguments in regard to the correction of
certain expressions are without merit. The fact that the
attorney may not be able to correct certain errors properly
is no excuse for continuing these errors. Furthermore, ap-
plicant has not been consistent throughout the specifica-
tion in the use of the incorrect terms, and confusion al-
ready exists to a serious extent. Accordingly, the require-
ments of the last Office letter are repeated, and are here-
with made final.

In regard to claims 22 and 23, it is noted that these
claims are absolutely contrary to each other so far as the
systems go themselves. Claim 23 appears to be an attempt at
a sub-combination as given in claim 22, and in order to make
this device operative it must be understood that the elements
of large curvature are mounted or supported on an area or
surface of small curvature. Since this must necessarily be
understood in the interpretation of the claims, it will make
the matter much more definite and clear if applicant will

371,817 -- 2.

bring into this claim 23 some statement to the effect that the surface as a whole has small curvature, but that the individual elements supported on this surface have large curvature. This seems to be the simplest way to correct the present inconsistency between these two claims.

W.H.S.

Spencer A. Korman
Examiner, Division XVI.

371- 62✓

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Division 16; Room 109.
 Application of Nikola Tesla,
 Ser. No. 371,817, filed May 4, 1907.
 Apparatus for Transmitting Electrical
 Energy through the Natural Media,
 renewal of 90,245.

New York, November 13, 1911.

Hon. Commissioner of Patents,

Sir:

In the above entitled application we now amend as follows:

Cancel the entire specification and claims, except the signatures thereto, and substitute the enclosed specification and claims.

R e m a r k s .

It is believed that the further consideration of this case by the Office will be facilitated by the substitution of a clean draft of the corrected specification, and we have accordingly taken that course rather than to attempt a complete correction of the former copy by insertion of amendatory clauses. The enclosed substitute specification has been compared with the old and with the drawings, and it is believed that no errors in the new copy will be found.

The confusion complained of by the Office, as existing in applicant's use of the terms "large curvature" and "small curvature" is eliminated by the constant use, throughout the new specification, of the term "radius of curvature". The terms large curvature and small curvature are not used in the new specification.

Claims 22 and 23 are also relieved of any objection on the

grounds noted in the last official letter, as will be seen by comparing the two claims with each other. The statements with regard to the curvature of the part by which the tension is raised by resonance is the same in each of these claims.

It is believed that the application is now in condition for allowance and such action is therefore requested.

Respectfully submitted,

Ken. Page & Cooper.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, Nikola Tesla, a citizen of the United States, residing at the Borough of Manhattan, in the City, County and State of New York, have invented certain new and useful improvements in apparatus for transmitting electrical energy, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

In endeavoring to adapt currents or discharges of very high tension to various valuable uses, as the distribution of energy through wires from central plants to distant places of consumption, or the transmission of powerful disturbances to great distances, through the natural or non-artificial media, I have encountered difficulties in confining considerable amounts of electricity to the conductors and preventing its leakage over their supports, or its escape into the ambient air, which always takes place when the electric surface density reaches a certain value.

The intensity of the effect of a transmitting circuit with a free or elevated terminal is proportionate to the quantity of electricity displaced, which is determined by the product of the capacity of the circuit, the pressure, and the frequency of the currents employed. To produce an electrical movement of the required magnitude it is desirable to charge the terminal as highly as possible, for while a great quantity of electricity may also be displaced by a large capacity charged to low pressure, there are disadvantages met with in many cases when the former is made too large. The chief of these are due to the fact

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that an increase of the capacity entails a lowering of
 the frequency of the impulses or discharges and a dimin-
 uation of the energy of vibration. This will be under-
 stood when it is borne in mind, that a circuit with a
 large capacity behaves as a slackspring, whereas one with
 small capacity acts like a stiff spring, vibrating more
 vigorously. Therefore, in order to attain the highest
 possible frequency, which for certain purposes is advan-
 tageous and, apart ^{from} of that, to develop the greatest energy
 in such a transmitting circuit, I employ a terminal of
 relatively small capacity, which I charge to as high a
 pressure as practicable. To accomplish this result I
 have found it imperative to so construct the elevated con-
 ductor, that its outer surface, on which the electrical
 charge chiefly accumulates, has itself a large radius of
 curvature, or is composed of separate elements which, ir-
 respective of their own radius of curvature, are arranged
 in close proximity to each other and so, that the outside
 ideal surface enveloping them is of a large radius. Evi-
 dently, the smaller the radius of curvature the greater,
 for a given electric displacement, will be the surface-
 density and, consequently, the lower the limiting pressure
 to which the terminal may be charged without electricity
 escaping into the air.

Such a terminal I secure to an insulating support
 entering more or less into its interior, and I likewise
 connect the circuit to it inside or, generally, at points
 where the electric density is small. This plan of construct-
 ing and supporting a highly charged conductor I have found
 to be of great practical importance, and it may be use-
 fully applied in many ways, as will be seen from the ac-
 companying drawing, in which

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Fig. 1 is a sectional view of a free terminal and the upper portion of its support;

fig. 2, 3 and 4 are sectional view of devices modified in details, and

fig. 5 is a view in elevation and part section of an improved free terminal and circuit of large surface with supporting structure and generating apparatus.

Referring to Fig. 1, a designates a hood or shell of conducting material of spherical form with an opening on the lower side, and b an insulating support which passes through this opening and fits into a metallic socket g secured to the inner surface of the hood. The conductor c, conveying the high potential charges to this terminal, is led into it through the same opening and connected to its inner or under side. When, for convenience, the wire is connected to the outer side of the shell, it should point towards the center of the latter, as otherwise the density might be great at the connection and the streamers breaking out there might limit the performance of the apparatus. The terminal, of course, need not be entirely of metal, the only requirement being that its outer surface be conducting, and that it be supported at points of low electric density. In this manner the leakage of the current along the post b is obviated, while owing to the uniformly large radius of curvature of the outer surface - which should be smooth and, if possible, polished - the breaking out of the charge into the air is prevented. Thus a considerable quantity of electricity may be accumulated on a single shell, notwithstanding its small linear dimensions and capacity.

The wire c should be heavily insulated, for it will be charged to a much greater density than the terminal,

and outside of the latter it should be, preferably, kept away from the insulating support b to avoid sparks and damage. It may be useful to remark that rubber insulation should not be employed, as it might be rapidly deteriorated, and that the conductor should be of as large a diameter as practicable in order to obtain a larger surface and so reduce the density.

A modified embodiment of the invention is illustrated in Fig. 2, in which d' represents a cylindrical terminal partly cut off, which is mounted on an insulating support b' and connected to the high tension circuit through a heavily insulated wire c'. A conducting shell or hood a' in contact with the terminal d' is placed so as to surround the upper end of the support b' as indicated, and in this way serves, like the hood a in Fig. 1, for preventing the leakage of electricity to the ground.

So also in such cases as that shown in Fig. 3, when ropes k l are necessary for steadying a similar terminal d², the tendency of the high potential charge to escape along them may be prevented by placing a conducting shell or hood a² over the collar l, to which they are fastened.

Still another valuable application of the invention is illustrated in Fig. 4, in which a³ represents a shell with rounded contours and a smooth conducting outer surface secured to an ordinary post b² in any convenient manner. As stated with reference to Fig. 1, the former may be of any kind of material with a conducting coating on the outside. The high tension wire c² is fastened to the shell a³ as usual, care being taken, however, to establish a good electrical contact between both, as otherwise sparks will form, which may cause heating and damage. For the better understanding of the function of the device atten-

tion is called to the fact that the streamers, issuing from the wire, are apt to gradually heat the support and thus impair its insulating qualities or else, by slowly crawling over its surface, establish a good conducting path, permitting in either case the high pressure current to follow and to cause damage. But if, in accordance with this invention, the insulator is provided with a conducting coating on the outside, such injurious action will be rendered impossible. This way of supporting high tension lines is both cheap and reliable. Obviously, in all cases, the insulating supports of the terminals, hoods or shells should be carefully protected from water.

When practical conditions render it necessary to use a greater terminal capacity than can be conveniently obtained with one piece of metal, or with a smooth and unbroken surface, I either employ a number of shells as a properly arranged, or I make up a terminal of a plurality of elements each having a sufficiently large radius of curvature. Such a construction is shown in Fig. 5, in which the terminal D consists of a suitably shaped metallic frame, in this case a ring of nearly circular cross section, which is covered with half spherical metal plates p p , thus constituting a very large conducting surface, smooth on all places where the electric charge principally accumulates. The frame is carried by a strong platform which is expressly provided for safety appliances, instruments of observation, etc., which ~~which~~ in turn rests on insulating supports F F . These should penetrate far into the hollow space formed by the terminal, and if the electric density at the points where they are bolted to the frame is still considerable, they may be specially protected by conducting hoods a^4 , similar to those before described.

Apart of the improvements which form the subject of this specification, the transmitting circuit, in its general features, is identical with that described and claimed in my original patents Nos. 645,576 and 649,621. The circuit comprises a coil A which is in close inductive relation with a primary C, and one end of which is connected to a ground-plate E, while its other end is led through a separate self-induction coil B and a metallic cylinder B' to the terminal D. The connection to the latter should always be made at, or near the center, in order to secure a symmetrical distribution of the current, as otherwise, when the frequency is very high and the flow of large volume, the performance of the apparatus might be impaired. The primary C may be excited in any desired manner, from a suitable source of currents G, which may be an alternator or condenser, the important requirement being that the resonant condition is established, that is to say, that the terminal D is charged to the maximum pressure developed in the circuit, as I have specified in my original patents before referred to. The adjustments should be made with particular care when the transmitter is one of great power, not only on account of economy, but also in order to avoid danger. I have shown that it is practicable to produce in a resonating circuit as E A B B' D immense electrical activities, measured by tens and even hundreds of thousands of horse-power, and in such a case, if the points of maximum pressure should be shifted below the terminal D, along coil B, a ball of fire might break out and destroy the support F or anything else in the way. For the better appreciation of the nature of this danger it should be stated, that the destructive action may take place with inconceivable violence. This will cease to be surprising when it is

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borne in mind, that the entire energy accumulated in the excited circuit, instead of requiring, as under normal working conditions, one quarter of the period or more for its transformation from static to kinetic form, may spend itself in an incomparably smaller interval of time, at a rate of many millions of horse power. The accident is apt to occur when, the transmitting circuit being strongly excited, the oscillations ^{caused} impressed upon it are ^{caused} rendered in any manner, more or less ^{caused} suddenly, ^{caused} ^{oscillations} ^{caused} than the free. It is therefore advisable to begin the adjustments with feeble and somewhat slower impressed oscillations, strengthening and quickening them gradually, until the apparatus has been brought under perfect control. To increase the safety, I provide on a convenient place, preferably on terminal D, one of more elements or plates either of somewhat smaller radius of curvature or protruding more or less beyond the others (in which case they may be of larger radius of curvature) so that, should the pressure rise to a value, beyond which it is not desired to go, the powerful discharge may dart out there and lose itself harmlessly in the air. Such a plate, performing a function similar to that of a safety valve on a high pressure reservoir, is indicated at v.

Still further extending the principles underlying my invention, special reference is made to coil B and conductor B'. The latter is in the form of a cylinder with smooth or polished surface of a radius much larger than that of the half spherical elements p p, and widens out at the bottom into a hood a⁴, which should be slotted to avoid loss by eddy currents and the purpose of which will be clear from the foregoing. The coil B is wound on a frame or drum p¹ of insulating material, with its turns close together. I have, ^{recently} discovered that when so wound the effect of

the small radius of curvature of the wire itself is overcome and the coil behaves as a conductor of large radius of curvature, corresponding to that of the drum. This feature is of considerable practical importance and is applicable not only in this special instance, but generally. For example, such plates as p p of terminal D, though preferably of large radius of curvature, need not be necessarily so, for provided only that the individual plates or elements of a high potential conductor or terminal are arranged in proximity to each other and with their outer boundaries along an ideal symmetrical enveloping surface of ^{large} a/r radius of curvature, the advantages of the invention will be more or less fully realized. The lower end of the coil B - which, if desired, may be extended up to the terminal D - should be somewhat below the uppermost turn of coil A. This, I find, lessens the tendency of the charge to break out from the wire connecting both and to pass along the support F'.

(See L) When it is desirable for some reason or other to place the turns of the coil leading up to the terminal far apart, a conductor presenting everywhere, outwardly, a surface of a large radius of curvature, should be employed. In any case, however, whether the high-tension circuit leading up to the terminal is coiled or straight, instead of being itself of a large radius of curvature, it may be simply protected, on the outside, against the breaking out of the charge by plates or elements such as p p properly disposed.

Terminals or electrodes of a large radius of curvature are common, their behavior is well known and, in all probability, they are frequently supported on places of low electric density. But they are always used in combination with opposite electrodes binding the charges and modifying their free distribution, for different ends and under con-

ditions entirely disregarding and quite incapable of fulfilling, the cardinal requirements of my invention. For these reasons alone, neither in their particular functions, or purposes, or results, do they bear the slightest similarity to the constructive improvements above described.

Moreover, high-potential effects of the character here chiefly contemplated have, to my best knowledge, only been produced by myself, and are obtainable only by devices of my own creation.

Having described my invention and some of the uses to which it may be advantageously applied, I claim:

1. The combination with a high tension oscillating circuit, of means as described for preventing leakage of a free charge, *remote from any or positively charged body*, comprising a curved conducting surface, in combination with an insulating support secured thereto at a point of low electrical density.

2. The means described for preventing leakage of high tension electricity, comprising a curved conducting surface in combination with a conductor of relatively large radius of curvature, a coil of closely packed turns of relatively large radius of curvature, and an insulating support, as set forth.

3. In a circuit of high potential, means for preventing leakage of electricity into the air, consisting of a coil with closely packed turns of relatively large radius of curvature, as set forth.

4. An electrical terminal, *remote from any oppositely charged body*, for high tension currents, in combination with an insulated conductor of large radius of curvature leading thereto, as set forth.

5. The combination with a high tension line, of a support therefor comprising *remote from any oppositely charged body*, a conducting surface, and an insulating support secured thereto at a point of low electric-

al density, as set forth.

6. The combination with a resonating circuit, of an electric terminal, therefore having a relatively large radius of curvature, and an insulating support secured thereto at a point of low electrical density, as set forth.

6. 7. The combination with a resonating circuit, of an electric terminal consisting of a hollow conducting surface of relatively large radius of curvature, and means for supporting the same from the inner side, as set forth.

7. 8. An electric terminal for a resonating circuit composed of a plurality of elements connected together at points of low electrical density, in combination with an insulating support, as set forth.

8. 9. The combination with a resonating circuit, of an electric terminal, therefore, composed of a plurality of curved conducting surfaces connected together and supported at points of low electrical density, as set forth.

9. 10. The combination with a resonating circuit of high potential having curved conducting surfaces, of relatively large radii of curvature, of one or more surfaces of smaller radii of curvature to permit the escape of the charge at a predetermined density, as set forth.

10. 11. A resonating circuit having its outermost conducting boundaries on which the charge chiefly accumulates arranged in surfaces of large radii of curvature, to permit the accumulation of a large charge without leakage, as set forth.

11. 12. A resonating circuit whose outermost conducting boundaries on which the charge chiefly accumulates constitute a large area and are arranged in surfaces of large radii of curvature, to permit the accumulation of a large charge without leakage, as set forth.

12. 13. A circuit of high tension, having its outer boundaries, on which the free charge chiefly accumulates, arranged

to produce a sensibly uniform electric surface-density, as set forth.

14. A circuit whose outermost conducting boundaries constitute a large area and are adapted by construction and arrangement to distribute the surface charge with approximately uniform density, as set forth.

15. A circuit having a plurality of capacity elements arranged in proximity to each other and in surfaces of large radii of curvature, as set forth.

16. A freely vibrating circuit having a plurality of capacity elements arranged in proximity to each other and in surfaces of large radii of curvature, as set forth.

17. A freely vibrating circuit having its outermost conducting boundaries arranged in surfaces of large radii of curvature, as set forth.

Per 26
18. A resonating circuit having its outermost conducting boundaries on which the charge chiefly accumulates arranged in symmetrical surfaces of large radii of curvature, *and remote from any oppositely charged body*, as set forth.

Per 26
19. In a system for the transmission of electrical energy a freely vibrating circuit of high tension having its outermost conducting boundaries arranged in surfaces of large radii of curvature, *and remote from any oppositely charged body*, as set forth.

Per 26
20. In a system for the transmission of electrical energy, a resonating circuit having a plurality of capacity elements, on which the charge chiefly accumulates, arranged in proximity to each other and in surfaces of large radii of curvature, as set forth.

21. A resonating circuit whose outermost conducting boundaries on which the charge chiefly accumulates are arranged in surfaces of large radii of curvature and which are supported on places of low density, as set forth.

14-22. A circuit comprising a part upon which the impulses or oscillations of a source are impressed and another part for raising the tension by resonance, the outermost boundaries of the latter part being arranged in surfaces of large radii of curvature, as set forth.

15-23. A circuit comprising a part in close inductive relation to a second circuit, and another part adapted for raising the tension by resonance, the outermost conducting boundaries of the latter part being arranged in surfaces of large radii of curvature, as set forth.

16-24. In a system for the transmission of electrical energy a circuit comprising a part in close inductive relation to a primary exciting circuit, and another part removed from the primary and adapted for raising the tension by resonance, the outermost boundaries of the latter part being arranged in surfaces of large radii of curvature, as set forth.

17-25. A circuit comprising a part upon which oscillations of a source are impressed and another part for raising the tension by resonance, the latter part being supported on places of low electric density and having its outermost conducting boundaries arranged in surfaces of large radii of curvature, as set forth.

18-26. In a system for the transmission of electrical energy, in combination with a transformer, a resonating circuit connected to its secondary having its outermost conducting boundaries arranged in surfaces of large radii of curvature, as set forth.

19-27. In a system for the transmission of electrical energy, in combination with a step up transformer, a circuit connected to its secondary and adapted for raising the tension by resonance, the outermost conducting boundaries of the said circuit being arranged in surfaces of large radii of

curvature, as set forth.

28. A oscillating circuit of high potential, having its outer conducting boundaries arranged to cause a sensibly uniform distribution of the free electric charge, as set forth.

29. A resonating circuit of high potential, the outer conducting boundaries of which are of large area and so arranged in space that the electric surface density on them will be approximately uniform, as set forth.

30. A high potential circuit of comparatively small linear dimensions, the outer boundaries of which constitute a relatively large area and are arranged to cause a sensibly uniform distribution of the free charge on them, to permit the accumulation of a large charge, as set forth.

31. A resonating circuit of relatively small linear dimensions and electrostatic capacity, the outer boundaries of which constitute a comparatively large area and are so disposed in space, that the electric density on them is sensibly uniform to permit the attainment of high potential, as set forth.

32. In apparatus of high tension, means for obtaining high potentials consisting of a circuit of relatively small electrostatic capacity and large outer conducting boundaries, the latter being arranged in space in a manner to cause an approximately uniform distribution of the free charge, as set forth.

33. In apparatus for the transmission of electrical energy through the natural media, means for obtaining high potential consisting of a resonating circuit of relatively small electrostatic capacity and outer boundaries of large area, the latter being arranged in a manner to cause a sensibly uniform distribution of the free charge on them, as described.

34. In apparatus for the transmission of electrical energy through the natural media, a resonating circuit connected to ground and to an elevated terminal, and having its outer boundaries arranged in a manner to prevent, on any of them, an undue accumulation of the free charge, as specified above.

35. A resonating circuit of high potential, a portion of which comprises a coiled conductor the turns of which are sufficiently close to minimize the effect of its small radius of curvature in the distribution of the free charge, whereby leakage is prevented, as set forth.

36. A resonating circuit of high potential, a portion of which comprises a conductor arranged in space so as to minimize the effect of its small radius of curvature in the distribution of the free charge, as set forth.

37. In a circuit of high tension, a conductor having its outer boundaries arranged to cause a sensibly uniform distribution of the charge thereon and thereby permit the accumulation of a great quantity of electricity, as set forth.

38. In apparatus of high tension, means for preventing leakage of electricity, comprising one or more conductors, the outer surface-elements of which are arranged in space to prevent an undue accumulation of the free charge on any of them, as set forth.

39. In apparatus for the production of great electromotive forces, an inductance coil or conductor supported on a place of relatively low potential and having its outer boundaries arranged in a manner to prevent, on any of them, an undue accumulation of the charge, as set forth.

40. In apparatus for the production of high tensions, a self-inductor joined in series with an energizing circuit and having its outer boundaries arranged in a manner to prevent, on any of them, an excessive rise of the electrical surface density, as set forth.

41. In apparatus for the production of powerful electrical oscillations, a self-inductor joined in series with an energizing circuit and a free terminal of the kind described, and having the elements of its outer surface disposed in space in a manner to prevent, on any of them, an undue rise of the electric density, as set forth.

42. In a high potential transmitter, a self-inductor supported on a place of relatively low potential and arranged in space to permit the accumulation of a great charge, as set forth.

43. In apparatus for the production of high tensions, a resonating circuit of comparatively small linear dimensions and having a relatively large outer surface of a configuration such as to minimize the effect of small radii of curvatures in the distribution of the free charge, as described.

44. In apparatus for the production of high potentials, in combination, an elevated terminal of the kind described, and a self-induction coil supported on a place of relatively low potential and extending to the elevated terminal, and having its turns sufficiently close to minimize the effect of small radii of curvatures of the conductor, as set forth.

(Rev. Page 4 Unapplied)

Div. 16 Room 109Address only
"The Commissioner of Patents,
Washington, D. C."

P. R.

Paper No. 18All communications respecting this
application should give the serial number,
date of filing, and title of invention.DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE

WASHINGTON

Dec. 27, 1911.

Nikola Tesla,

C/o Kerr, Page & Cooper,

149 Broadway,

New York, N. Y.

*Please find below a communication from the EXAMINER in charge of your application.*S. No. 371817, filed May 4, 1907. Apparatus for Transmittine
Electrical Energy, renewal of 90,245.*E. B. Moore*

Commissioner of Patents.

This action is in response to amendment filed
Nov. 14, 1911.The expressions "apart of that", line 9, page 2,
and "quicker than the free", line 9, page 6, are not
understood.Insert a comma after "specification", line 2,
page 5.Cancel "namely" with the preceding and following
comma in the last line of page 6.It is desired that the following matter be canceled
that the substitute specification conform to the
original: Lines 18 to 26, page 7; lines 6 to 10, page
8.

It is desired to make the following of record:

Kinraide,	676,583,	June	18,	1901,	178 - 319,	(X), 38
✓ Shoemaker,	671,403,	Apr.	6,	1901,	178 - 319,	(a), 17
✓ Stone,	717,512,	Dec.	30,	1902,	178 - 319,	(f), 33
✓ Lodge,	609,154,	Aug.	16,	1898,	178 - 319,	(a), 8
Ducrotet,	726,413,	Apr.	28,	1903,	178 - 319,	(e), 40
Marconi,	676,322,	June	11,	1901,	178 - 319,	(a), 17
Canot's Physics, 11th edition, 1863, Figures 669 and 671, found on pages 708 and 709, respectively.						

Claims 1, 4 and 5 are rejected upon Kinraide, it
being held that there would be no invention in insulat-
ing the support e of Figure 2, for instance. It is

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371-80

371,817 -- 2.

understood, of course, that the metallic shell must be supported and insulated in some manner. It is immaterial, so far as this invention is concerned, whether the metallic shell or support be an insulator attached to the shell at or near the point where the metallic support is here shown as connected or whether the metallic support be insulated at a point entirely removed from the metallic shell. The point in the invention is that the support be attached to the shell at a place of low electrical density.

Claim 3 is rejected upon Figure 671 of Ganot.

Cancel the comma after "terminal", claim 6, and change "therefore", line 2, to therefor.

A common piece of laboratory apparatus for use in discharging condensers and for transferring electrical discharges is a pair of metal balls at the end of metal rods, the latter hinged together and attached to an insulating handle. Claim 6 is broad enough to be met by this device. The insulating support in this case is secured at a point of low electrical density.

Claim 7 is rejected upon the same ground as claim 6. There would be no invention in using such a terminal as that shown by Kinraide in place of the metal balls of the Leyden jar discharger mentioned above.

Claims 8, 9 and 10 are rejected upon the showing found in Ganot, Figure 669. The several bells of varying sizes attached one to the other shown in this figure are connected together at points of relative low electrical density.

Cancel the commas before and after "therefor", line 2, claim 9, and after "surfaces", line 2, claim 10 and insert of after "curvature", line 3, claim 10.

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Claims 11 to 21, inclusive, are rejected upon Kinraide. In this reference is disclosed the advantage of surfaces of a large radii of curvature at terminal points to permit of the accumulation of a large charge without leakage. There can be no invention, then, in employing this device with a circuit which is tuned.

Claims 13, 14, 28 to 34, inclusive, 36 to 43, inclusive, are objected to as functional. In each of these claims means must be included positively for performing the functions indicated; otherwise the claims do not distinguish structurally from the references and are not patentable thereover.

Claims 22 to 27, inclusive, are rejected upon Shoemaker, Lodge or Stone.

Claims 28 to 34, inclusive, 36 and 37 are met by and rejected upon Stone.

Change "a", line 1, claim 28, to an.

Correct the spelling of "circuit", line 2, claim 26.

The expression "coil or conductor" of claim 39 is objected to as alternative.

Claims 40 and 41 are rejected upon Marconi.

Claims 42 and 44 are rejected upon Ducretet.

Many of these claims are functional, as pointed out above, these functional expressions being insufficient to carry the claims over the references.

Claim 43 is met by any circuit. The terms "relatively large" and "small" are relative terms and do not limit the claim. What elements have a small radii of curvature as stated in lines 4 and 5 of this claim?

It is noted that when the claims in this case have

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371,817 -- 4.

been amended so that they are no longer functional many of them will not be patentable over others. There is at present a needless number of claims in the case, the alleged invention being a comparatively simple one.

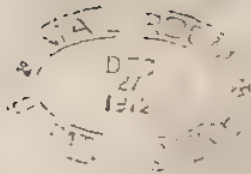
All of the claims except 25 are rejected.

Sprague

Spencer A. Kimball
Examiner, Division XVI.

371-83

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MAILED 19
JAN 1913

Div. 16, Room 109,

Application of Nikola Tesla,
Ser. No. 371,817, filed May 4,
1907. Apparatus for Transmitting
Electrical Energy through the Natural
Media. Renewal of application Ser. No.
90,245.

New York, December 26th, 1912.

Hon. Commissioner of Patents,

Sir:-

In the above entitled application we amend as follows
in response to the official letter of December 27th, 1911:

-
- ✓ Page 2, line 9, cancel "of" and insert: from
 - ✓ Page 5, (second page so numbered) after "specification"
insert a comma. Change the number of such page to: 5a.
 - ✓ Page 6, line 8, before "oscillations" insert: impressed
 - ✓ Same line, cancel "rendered" and insert: caused,
 - ✓ Same line, after "oscillations" cancel "impressed"
 - ✓ Line 9, after "manner" cancel the comma
 - ✓ Same line, cancel "suddenly" and insert: sudden, to be
more rapid
 - ✓ Same line, cancel "quicker"
 - ✓ Same line, before the period after "free" insert:
oscillations.
 - ✓ Page 6, last line, cancel ", namely,"
 - ✓ Page 7, cancel lines 18 to 26 inclusive.
 - ✓ Page 8, cancel lines 6 to 10 inclusive.

With respect to the grounds of rejection of claims 1,
4 and 5, it will be observed on closer examination that the

invention described in patent 676,583 to Kinrade has nothing in common with that of the applicant. It is absolutely essential in the latter case that the curved surface be insulated in the manner exemplified in applicant's drawing. Otherwise the very purpose of the invention would be defeated. Kinrade merely provides a terminal of comparatively large surface in connection with a point. In such a case the distribution of electricity on the large surface is nothing like that in applicant's invention in which the ~~xxxx~~ charge is free, that is, the one carried by the surface when remote from any conducting bodies or surfaces charged with opposite electricity. It was thought that this distinction was sufficiently brought out in the claims by the use of the term "free charge", but in view of the objection we propose to amend the claims as follows:

Claim 1, line 3, before the comma following "surface"
 insert: remote from any oppositely charged body

Claim 4, line 1, after the comma following "currents"
 insert: remote from any oppositely charged body,

Claim 5, line 2, before the comma following "surface",
 insert: remote from any oppositely charged body,

As claim 2 is not mentioned in connection with the rejection of claims 1, 4 and 5, and is not elsewhere in the official letter rejected we assume that it is allowed.

With respect to claim 3, will the Examiner kindly indicate more clearly the portion of Ganot on which he relies, as we are unable to find in our copy any figure or reference which would seem to meet this claim, and it occurs to us that by the citation typographical or other error in the official letter ^{the citation} was not given correctly.

✓ Cancel claim 6.

As to claim 7, reconsideration is respectfully requested.
to
The structure referred by the Examiner in connection with
claim 6 hardly seems to meet claim 7.

With reference to the objection to claims 8, 9 and 10,
we are unable to find in Ganot anything which would bear on
the case. Possibly an error, as indicated above, has also
occurred in this connection.

In claim 9, line 2, cancel the commas before and after
✓ "therefor".

✓ Claim 10, line 2, cancel the comma after "surfaces"

✓ Same claim, line 3, before "one" insert: of

Referring to the rejections to claims 11 and 12, inclusive,
it is respectfully pointed out that the surfaces of large
radius ^{of} curvature in Kinrade do not play any such part as in
applicant's invention. In Kinrade's patent the bound charge
accumulates at points nearest to the oppositely charged
terminal and ~~xxxx~~absolutely the same effect would be secured
if instead of the curved terminal a flat ~~xxxx~~ plate were
used with sharp edges which would be only turned back a little
away from the opposite terminal. No leakage would take place
in spite of the fact that the outer boundaries would be of
infinitely small curvature. But in applicant's invention most
of the charge would be lost by streamers through the air if
resort were had to such a construction. Moreover, in Kinrade's
patent a terminal of large radius of curvature is connected to
a circuit which itself ^{has} not ~~==~~ surfaces on which the charge
accumulates, arranged in surfaces of large diameter of curvature,
which is essential to secure the objects of applicant's inven-

tion. It is therefore submitted that claims 11 and 12 which specifically call for a "resonating circuit" are already differentiated with sufficient clearness from Kinrade.

Cancel claims 13, 14, 15, 16 and 17.

Change the numerals of claims 1, 2, 3, 4, 5, 7, 8, 9 and 10 to 1, 2, 3, 4, 5, 6, 7, 8, and 9, respectively.

and claim 19, line 4,
Claim 18, line 3, before the comma following "curvature"

insert: and remote from any oppositely charged body.

Change the numerals of claims 18 and 19 to 10 and 11, respectively.

Cancel claims 20 and 21.

Change the numerals of claims 22 to 27 to 13, 14, 15, 16 and 17, respectively.

Present claims 12 to 17, former claims 22 to 27, are submitted without change for reconsideration, as they are already thought to be clearly distinguished from the references of record. If the Examiner is still of the opinion that they are met by the references cited, we respectfully request that the references be applied specifically to the claims. In this connection we note that claim 25 is already allowed.

Cancel claims 28 to 34, inclusive, and change the numeral of claim 35 to 18.

We assume that former claim 35, now 18, is not rejected ^{it is not} as specifically mentioned in connection with the rejection of the mentioned claims, to wit, original claims 28 to 34 and ~~35 to~~ 36 and 37.

Cancel claims 36, ~~and~~ 37, 38 and 39.

Cancel claim 40 and insert:

21-19. In an apparatus for the production of high-tensions, a self-inductor joined in series with an energizing circuit and having its outer boundaries arranged in a curved surface of large

radius of curvature so as to prevent any excessive rise of the electric surface density on any portion of the circuit, as set forth.

Cancel claim 41 and insert:

20. An apparatus for the production of high-tensions, a self-inductor joined in series with an energizing circuit and a free terminal of the kind described and having its turns arranged in a surface of a large radius of curvature and sufficiently close together to prevent any rise in the accumulation of electrical ~~xxxxxx~~ density on any part of the circuit, as set forth.

Cancel claims 42, 43 and 44:

We have cancelled 23 of the 44 claims, even at the risk of dropping some which are really essential to the adequate protection of applicant's invention. The subject matter of this case is of such extraordinary importance, that in justice to Mr. Tesla we feel that we cannot go further in reducing the number of the claims. It is believed that 21 claims in a case which occupied such a foremost position as does this one, is not at all excessive.

Respectfully submitted,

Ken. Page & Cooper

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Div 16 Room ... 109

2-360

Paper No. 20

Address map
 "The Correspondence of Patents,
 Washington, D. C."

F. H.

All communications respecting this
 application should give the serial number,
 date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR
 UNITED STATES PATENT OFFICE

WASHINGTON

Mar. 26, 1913.

Messrs. Kerr, Page and Cooper,

140 Broadway,

New York, N. Y.

Please find below a communication from the EXAMINER in charge of the application of

Nikola Tesla, S. No. 371,817, filed May 4, 1907, Apparatus
 for Transmitting Electrical Energy, renewal of 90,245,
 filed Jan. 18, 1902.



Commissioner of Patents

6-2031

This action is in response to amendment filed
 Dec. 27, 1912.

No directions are given to cancel original claims
 11 and 12 so that there are twenty-two claims in the
 case. The claims have, accordingly, been numbered 1
 to 22.

It is desired to make of record the patent to
 Kinraide, 689,199, Dec. 17, 1901, 250 - 38. Atten-
 tion is called to lines 96 to 105 of page 1 of this
 patent. One function of the device disclosed in
 this reference is seen to be the checking of the
 brush discharge so as to prevent the charge from leak-
 ing from the surface.

Claims 1, 4, 5, 6, and 10 to 13, inclusive, are
 rejected upon this patent to Kinraide. Of course, in
 practice, the device of Kinraide would ordinarily be
 provided with an insulating support which would be
 attached to the element a or b⁵. There could be no
 invention in supplying such a support. Moreover,
 there could be no invention in employing the Kinraide
 device to prevent leakage from the terminal of a cir-

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cuit in which the charge is oscillating. It is immaterial so far as the protective action of the terminal is concerned whether the charge is at rest or rapidly oscillating.

A copy of the 11th edition of Ganot's Physics, referred to in the last Office action, may be seen in the examiner's room, Division 16, of the Patent Office. Figure 669 shows a discharge terminal consisting of a series of contiguous spheres in alignment and successively smaller in diameter. Figure 671 shows a coil of close turns of insulated wire placed in the discharge circuit of a Leyden jar and supported upon an insulating stand. The figure also shows a needle to be magnetized and inserted in the open coil.

Claims 2, 3, 20, 21 and 22 are rejected upon Figure 671 of Ganot. It is held that there would be no invention in employing such a coil as that here shown in an oscillating or resonant circuit.

Claims 7, 8 and 9 are rejected upon Figure 669 of Ganot. The discharge spheres shown in this figure are supported at points of relatively low electrical density.

Claim 14 is rejected upon Shoemaker, Lodge or Stone, of record, as per last Office action, and claims 15, 16, 18 and 19 are rejected upon Shoemaker or Lodge. Applying Shoemaker to claim 14, for instance, the part of the antenna and ground circuit, Figure 1, which contains the spark gap is that part upon which oscillations are impressed, while the element 1 constitutes a part of the circuit for raising the tension by resonance. It should be noted that the type of capacity area shown in Figure 2 may be used in place of that of

371,817 -- 3.

Figure 1. See lines 47 to 51, para 2, of this reference. If resonance plays a small part in raising the tension in this oscillating circuit, a point which is not clearly brought out in the specification, it is held that there would be no invention in employing this type of capacity area with any system in which the antenna circuit is made resonant, as, for instance, Tesla, 645,576, Mar. 20, 1900, 250 - 2. The same remarks are applicable to the capacity area shown in the Stone and Lodge patents.

"It", line 3, claim 21, should apparently be its. The claim is indefinite in that the antecedent of this word may be either "self-inductor" or "circuit". The same is true of claim 22. This claim, moreover, is misdescriptive in calling for a structure which will prevent any rise in electrical density. The expression "any rise in the accumulation of electrical density" is redundant and should be revised.

The spelling of "circuit", line 2, claim 18, should be corrected.

Claim 17 stands allowed.

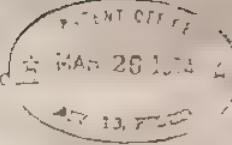
Wm A Kinnear
Examiner, Division XVI.

Spague

371-91

PAPER NO. 2 /
 A. L. S. / 11 / 12 /
 12970

132
 Division 16, Room 100,
 Appn. of Nikola Tesla,
 Serial No. 30,812,
 for an Improved Electric
 Transformer, the Natural Heide,
 Serial of 10,240.



New York, March 24th, 1914.

Hon. Commissioner of Patents,

Sir:-

In the above entitled application we now amend as follows:

✓ Cancel the entire specification and claims, except the signatures thereto, and substitute the annexed specification and claims.

✓ In the drawing, cancel Figs. 1, 2, 3 and 4 and the designation "Fig. 5".

REMARKS.

The Office Draftsman has been directed to make such changes in the lettering of the drawing as are required by the substitute specification.

With respect to the objections raised in the Official letter of March 26th, 1913, we beg again to point out that in no instance do the devices described fulfill the purposes of applicant's invention.

In the patent to Kinraide, #600,190 of Dec. 17, 1901, a shell of large surface is used to modify the discharge at the point, but it does not serve to prevent leakage except from that point. It is well known that streamers form on

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Leakage would be useless for the purpose of the applicant. It will be observed that the rod is of small diameter and will therefore permit leakage at a comparatively small pressure. Indeed, the attainable maximum pressure will simply depend on the radius of curvature of that rod and the fact that the patent abstracts a very large surface shows that Linnaeus only desired to modify the action at the point and had no idea of anything else. If the Leyden jar circuit were arranged in accordance with Tesla's invention, all parts of the circuit would be so constructed and arranged that no leakage could take place anywhere.

The official letter quotes Ganot's Physics in which a coil with close turns is shown in the discharge circuit of a Leyden jar. It is true that there might be no leak on that coil, itself, if it is of sufficient diameter but its ends, being exposed and the conductor being of small radius of curvature, will permit leakage and limit the tension to a small value. Furthermore, loss will take place in other parts of the circuit.

The same holds true of all the other references.

The Tesla Electrode or Coil is by construction and arrangement such that it may be likened to a stopper closing the only hole left open in a reservoir, while a device such as described in the instances cited may close only one of many holes left in a reservoir and is therefore of no effect.

In our previous letters every effort was made to point out this and other distinctions and it was thought that in

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the amendment last submitted all objections to the allowance of the claims had been removed. The new specification submitted contains but those passages of the previous text which are indispensable to the clear understanding of the invention and explanation of the remaining figure of the drawing, (formerly Fig. 5), but all the claims are fully justified by this condensed description and illustration. The invention constitutes a valuable improvement in the art, affording, as it does, a means for attaining enormous electrical activities and resonant rises of current and potential impracticable heretofore. We therefore submit that ample warrant exists for ~~the~~ favorable action on the part of the Office.

A print of the drawings as filed is sent herewith.

Respectfully submitted,

Wm. Page & Co.

12973

TO ALL WHOM IT MAY CONCERN:

Be it known that I, Nikola Tesla, a citizen of the United States, residing ~~at~~ the Borough of Manhattan, in the City, County, and State of New York, have invented certain new and useful improvements in apparatus for transmitting electrical energy, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

In endeavoring to adapt currents or discharges of very high tension to various valuable uses, as the distribution of energy through wires from central plants to distant places of consumption, or the transmission of powerful disturbances to great distances, through the natural or non-artificial media, I have encountered difficulties in confining considerable amounts of electricity to the conductors and preventing its leakage over their supports, or its escape into the ambient air, which always takes place when the electric surface density reaches a certain value.

The intensity of the effect of a transmitting circuit with a free or elevated terminal is proportionate to the quantity of electricity displaced, which is determined by the product of the capacity of the circuit, the pressure, and the frequency of the currents employed. To produce an electrical movement of the required magnitude it is desirable to charge the terminal as highly as possible, for while a great quantity of electricity may also be displaced by a large capacity charged to low pressure, there are disadvantages met with in many cases when the former

12074

is made too large. The chief of these are due to the fact that an increase of the capacity entails a lowering of the frequency of the impulses or discharges and a diminution of the energy of vibration. This will be understood when it is borne in mind, that a circuit with a large capacity behaves as a slackspring, whereas one with a small capacity acts like a stiff spring, vibrating more vigorously. Therefore, in order to attain the highest possible frequency, which for certain purposes is advantageous and, apart from that, to develop the greatest energy in such a transmitting circuit, I employ a terminal of relatively small capacity, which I charge to as high a pressure as practicable. To accomplish this result I have found it imperative to so construct the elevated conductor, that its outer surface, on which the electrical charge chiefly accumulates, has itself a large radius of curvature, or is composed of separate elements which, irrespective of their own radius of curvature, are arranged in close proximity to each other and so, that the outside ideal surface enveloping them is of a large radius. Evidently, the smaller the radius of curvature the greater, for a given electric displacement, will be the surface-density and, consequently, the lower the limiting pressure to which the terminal may be charged without electricity escaping into the air.

Such a terminal I secure to an insulating support entering more or less into its interior, and I likewise connect the circuit to it inside or, generally, at points where the electric density is small. This plan of constructing and supporting a highly charged conductor I have found to be of great practical importance, and it may be usefully applied in many ways.



(2) 100

12975

See Encl
Circuit

Referring to the accompanying drawing, ^{The figure} ~~Fig. 1~~ is a view in elevation and part section of an improved free terminal and circuit of large surface with supporting structure and generating apparatus.

The terminal D consists of a suitably shaped metallic frame, in this case a ring of nearly circular cross section, which is covered with half spherical metal plates P P, thus constituting a very large conducting surface, smooth on all places where the electric charge principally accumulates. The frame is carried by a strong platform expressly provided for safety appliances, instruments of observation, etc., which in turn rests on insulating supports F.F. These should penetrate far into the hollow space formed by the terminal, and if the electric density at the points where they are bolted to the frame is still considerable, they may be specially protected by conducting hoods as H.

Apart of the improvements which form the subject of this specification, the transmitting circuit, in its general features, is identical with that described and claimed in my original patents Nos. 645,576 and 649,621. The circuit comprises a coil A which is in close inductive relation with a primary C, and one end of which is connected to a ground-plate E, while its other end is led through a separate self-induction coil B and a metallic cylinder B' to the terminal D. The connection to the latter should always be made at, or near the center, in order to secure a symmetrical distribution of the current, as otherwise, when the frequency is very high and the flow of large volume, the performance of the apparatus might be impaired. The primary C may be excited in any desired manner, from a suitable

source of currents G, which may be an alternator or condenser, the important requirement being that the resonant condition is established, that is to say, that the terminal D is charged to the maximum pressure developed in the circuit, as I have specified in my original patents before referred to. The adjustments should be made with particular care when the transmitter is one of great power, not only on account of economy, but also in order to avoid danger. I have shown that it is practicable to produce in a resonating circuit as E A B B' D immense electrical activities, measured by tens and even hundreds of thousands of horse-power, and in such a case, if the points of maximum pressure should be shifted below the terminal D, along coil B, a ball of fire might break out and destroy the support F or anything else in the way. For the better appreciation of the nature of this danger it should be stated, that the destructive action may take place with inconceivable violence. This will cease to be surprising when it is borne in mind, that the entire energy accumulated in the excited circuit, instead of requiring, as under normal working conditions, one quarter of the period or more for its transformation from static to kinetic form, may spend itself in an incomparably smaller interval of time, at a rate of many millions of horse power. The accident is apt to occur when, the transmitting circuit being strongly excited, the impressed oscillations upon it are caused, in any manner more or less sudden, to be more rapid than the free oscillations. It is therefore advisable to begin the adjustments with feeble and somewhat slower impressed oscillations, strengthening and quickening them gradually, until

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the apparatus has been brought under perfect control. To increase the safety, I provide on a convenient place, preferably on terminal D, one ^{or} of more elements or plates either of somewhat smaller radius of curvature or protruding more or less beyond the others (in which case they may be of larger radius of curvature) so that, should the pressure rise to a value, beyond which it is not desired to go, the powerful discharge may dart out there and lose itself harmlessly in the air. Such a plate, performing a function similar to that of a safety valve on a high pressure reservoir, is indicated at V.

Still further extending the principles underlying my invention, special reference is made to coil B and conductor B'. The latter is in the form of a cylinder with smooth or polished surface of a radius much larger than that of the half spherical elements P P, and widens out at the bottom into a hood H, which should be slotted to avoid loss by eddy currents and the purpose of which will be clear from the foregoing. The coil B is wound on a frame or drum D¹ of insulating material, with its turns close together. I have discovered that when so wound the effect of the small radius of curvature of the wire itself is overcome and the coil behaves as a conductor of large radius of curvature, corresponding to that of the drum. This feature is of considerable practical importance and is applicable not only in this special instance, but generally. For example, such plates as P P of terminal D, though preferably of large radius of curvature, need not be necessarily so, for provided only that the individual plates or elements

4. As a means for transmitting electrical energy to a distance through the natural media a grounded resonant circuit, comprising a part upon which oscillations are impressed and another for raising the tension, having its outer conducting boundaries on which a high tension charge accumulates arranged in surfaces of large radii of curvature, substantially as described.

5. The means for producing excessive electric potentials consisting of a primary exciting circuit and a resonant secondary having its outer conducting elements which are subject to high tension arranged in proximity to each other and in surfaces of large radii of curvature so as to prevent leakage of the charge and attendant lowering of potential, substantially as described.

6. A circuit comprising a part upon which oscillations are impressed and another part for raising the tension by resonance, the latter part being supported on places of low electric density and having its outermost conducting boundaries arranged in surfaces of large radii of curvature, as set forth.

7. In apparatus for the transmission of electrical energy without wires a grounded circuit the outer conducting elements of which have a great aggregate area and are arranged in surfaces of large radii of curvature so as to permit the storing of a high charge at a small electric density and prevent loss through leakage, substantially as described.

8. A wireless transmitter comprising in combination a source of oscillations as a condenser, a primary exciting circuit and a secondary grounded and elevated con-

ductor the outer conducting boundaries of which are in proximity to each other and arranged in surfaces of large radii of curvature, substantially as described.

9. In apparatus for the transmission of electrical energy without wires an elevated conductor or antenna having its outer high potential conducting or capacity elements arranged in proximity to each other and in surfaces of large radii of curvature so as to overcome the effect of the small radius of curvature of the individual elements and leakage of the charge, as set forth.

10. A grounded resonant transmitting circuit having its outer conducting boundaries arranged in surfaces of large radii of curvature in combination with an elevated terminal of great surface supported at points of low electric density, substantially as described.

*(Rev. Page & Cooper)
Atty for Tesla*

THOMAS B. KERR,
PARKER W. PAGE
DRURY W. COOPER
JOHN CAMPBELL KERR
J. S. HAYWARD

STURGES S. DUNHAM,
WILLIAM SCHLESER
THOMAS J. BYRNE

LAW OFFICES OF
KERR, PAGE, COOPER & HAYWARD.

SINGER BUILDING,
145 BROADWAY,
NEW YORK CITY.
WESTERN UNION CODE
DAILY ADDRESS "KERRSTON"

March 24th, 1914

N^o 23

Hon. Commissioner of Patents,
Washington, D.C.

Attention of Draftman's Division.

Sir:-

Please have the Draftsman make the following corrections in the drawing in the application of Nikola Tesla, (Div. 16, Room 109); filed January 18th. 1902, (renewed May 4th, 1907), Serial No. 371,817, Apparatus for Transmitting Electrical Energy:

Change the reference letters p, p to: P, P.

Change a⁴ to: H.

Change y to: V.

Charge cost of above to our deposit account.

Very respectfully,

Kerr, Page & Cooper

Kerr, Page, Cooper & Hayward

3SD/JJB

Nikola Tesla for Defendant—Direct.

526 deed, was open, but I have photographs to show how it looked exactly and how it would have looked finished.

Q. After you delivered the deed was the tower ever enclosed?

A. No, it was just open.

Q. Now the dome or the terminal at the top, was that enclosed?

A. No sir.

Q. Never enclosed?

A. Never enclosed, no.

Q. Had that structure ever been completed?

527 A. The structure so far, if I understand the terms right, yes, the structure was all completed but the accessories were not placed on it yet. For instance that globe there was to be covered with specially pressed plates. These plates——

Q. That had not been done, had it?

A. That had not been done, although I had it all prepared. I had prepared everything, I had designed and prepared everything, but it was not done.

Q. Was the structure of the tower in any manner connected with the brick building or power plant?

A. The tower was separate.

528 Q. I understand, but was there any connection between them?

A. There were of course two channels. One was for communicating, for bringing into the tower compressed air and water and such things as I might have needed for operations, and the other one was to bring in the electric mains.

By the Referee:

Q. In order to do that there was, as a matter of fact, was there not, a well-like shaft going down right in the middle of the tower into the ground some fifty or sixty feet?

Nikola Tesla for Defendant—Direct.

A. Yes. You see the underground work is one of 529
the most expensive parts of the tower. In this system that I have invented it is necessary for the machine to get a grip of the earth, otherwise it cannot shake the earth. It has to have a grip on the earth so that the whole of this globe can quiver, and to do that it is necessary to carry out a very expensive construction. I had in fact invented special machines. But I want to say this underground work belongs to the tower.

By Mr. Hawkins:

Q. Anything that was there, tell us about. 530

A. There was, as your Honor states, a big shaft about ten by twelve feet goes down about one hundred and twenty feet and this was first covered with timber and the inside with steel and in the center of this there was a winding stairs going down and in the center of the stairs there was a big shaft again through which the current was to pass, and this shaft was so figured in order to tell exactly where the nodal point is, so that I could calculate every point of distance. For instance I could calculate exactly the size of the earth or the diameter of the earth and measure it exactly within four feet with that machine.

Q. And that was a necessary appurtenance to 531
your tower?

A. Absolutely necessary. And then the real expensive work was to connect that central part with the earth, and there I had special machines rigged up which would push the iron pipes, one length after another, and I pushed these iron pipes, I think sixteen of them, three hundred feet, and then the current through these pipes takes hold of the earth. Now that was a very expensive part of the work, but it does not show on the tower, but it belongs to the tower.

Nikola Tesla for Defendant—Direct.

532 By Mr. Fordham:

Q. Was the hole really one hundred and twenty feet deep, did you say?

A. Yes, you see the ground water on that place is about one hundred and twenty feet. We are above the ground water about one hundred and twenty feet. In the well we struck water at about eighty feet.

By the Referee:

Q. What you call the main water table?

533 A. Yes the main well we struck at eighty feet, but there we had to go deeper.

By Mr. Hawkins:

Q. Tell the Court generally, not in detail, the purpose of that tower and the equipment which you have described connected with it?

Mr. Fordham: How is that material?

The Referee: I will take it.

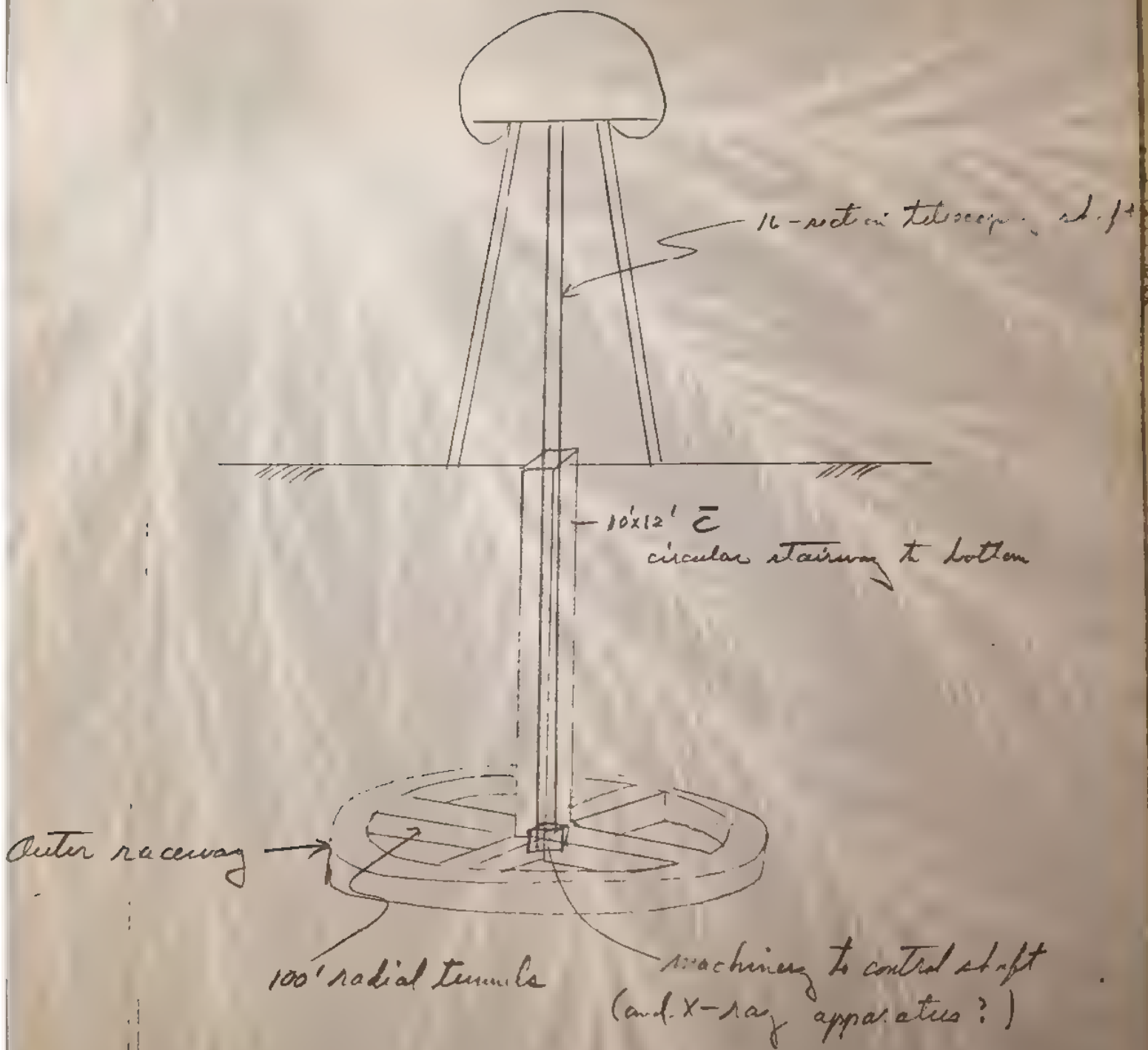
Mr. Fordham: We except.

534 A. Well, the primary purpose of the tower, your Honor, was to telephone, to send the human voice and likeness around the globe.

By the Referee:

Q. Through the instrumentality of the earth.

A. Through the instrumentality of the earth. That was my discovery that I announced in 1893, and now all the wireless plants are doing that. There is no other system being used. And the idea was to reproduce this apparatus and then connect it just with a central station and telephone office, so that you may pick up your telephone and if you wanted to talk to a telephone subscriber in Aus-



L Anderson

11-27-84

No. 787,412.

PATENTED APR. 18, 1905.

N. TESLA.

ART OF TRANSMITTING ELECTRICAL ENERGY THROUGH THE NATURAL
MEDIUMS.

APPLICATION FILED MAY 18, 1900. RENEWED JUNE 17, 1902

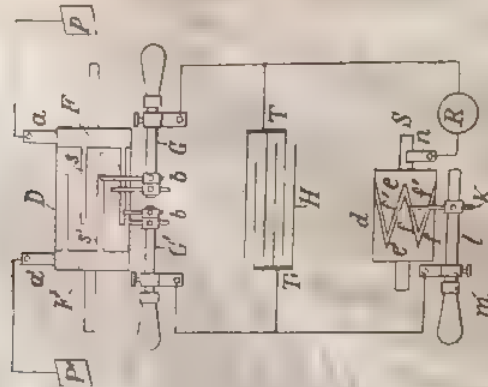


Fig. 2

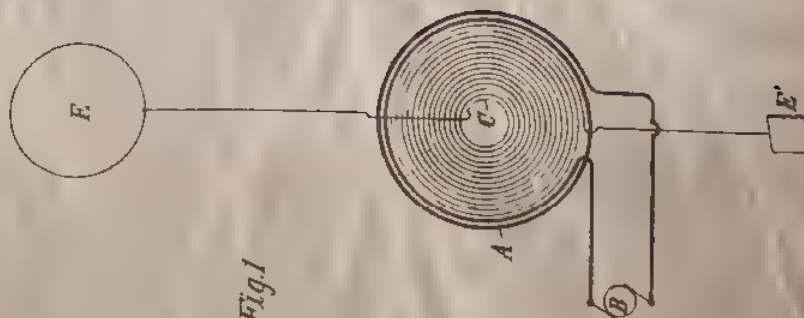


Fig. 1

Witnesses:
Raphael Ketler
M. Lawrence Dyer.

Nikola Tesla Inventor
by *New Page & Co.* Attys

UNITED STATES PATENT OFFICE.

NIKOLA TESLA, OF NEW YORK, N. Y.

ART OF TRANSMITTING ELECTRICAL ENERGY THROUGH THE NATURAL MEDIA.

SPECIFICATION forming part of Letters Patent No. 787,412, dated April 18, 1905.

Application filed May 16, 1900. Renewed June 17, 1902. Serial No. 113,034.

to all whom it may concern.

Be it known that I, NIKOLA TESLA, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have discovered a new and useful Improvement in the Art of Transmitting Electrical Energy Through the Natural Media, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

It is known since a long time that electric currents may be propagated through the earth, and this knowledge has been utilized in many ways in the transmission of signals and the operation of a variety of receiving devices remote from the source of energy, mainly with the object of dispensing with a return conducting wire. It is also known that electrical disturbances may be transmitted through portions of the earth by grounding only one of the poles of the source, and this fact I have made use of in systems which I have devised for the purposes of transmitting through the natural media intelligible signals or power and which are now familiar; but all experiments and observations heretofore made have tended to confirm the opinion held by the majority of scientific men that the earth, owing to its immense extent, although possessing conducting properties, does not behave in the manner of a conductor of limited dimensions with respect to the disturbances produced, but, on the contrary, much like a vast reservoir or ocean, which while it may be locally disturbed by a commotion of some kind remains unresponsive and quiescent in a large part or as a whole. Still another fact now of common knowledge is that when electrical waves or oscillations are impressed upon such a conducting-path as a metallic wire reflection takes place under certain conditions from the ends of the wire, and in consequence of the interference of the impressed and reflected oscillations the phenomenon of "stationary waves" with maxima and minima in definite fixed positions is produced. In any case the existence of these waves indicates that some of the outgoing waves have reached the boundaries of the conducting-path and have been reflected from the same. Now I have

discovered that notwithstanding its vast dimensions and contrary to all observations heretofore made the terrestrial globe may in a large part or as a whole behave toward disturbances impressed upon it in the same manner as a conductor of limited size, this fact being demonstrated by novel phenomena, which I shall hereinafter describe.

In the course of certain investigations which I carried on for the purpose of studying the effects of lightning discharges upon the electrical condition of the earth I observed that sensitive receiving instruments arranged so as to be capable of responding to electrical disturbances created by the discharges at times failed to respond when they should have done so, and upon inquiring into the causes of this unexpected behavior I discovered it to be due to the character of the electrical waves which were produced in the earth by the lightning discharges and which had nodal regions following at definite distances the shifting source of the disturbances. From data obtained in a large number of observations of the maxima and minima of these waves I found their length to vary approximately from twenty-five to seventy kilometers, and these results and certain theoretical deductions led me to the conclusion that waves of this kind may be propagated in all directions over the globe and that they may be of still more widely differing lengths, the extreme limits being imposed by the physical dimensions and properties of the earth. Recognizing the existence of these waves an unmistakable evidence that the disturbances created had been conducted from their origin to the most remote portions of the globe and had been thence reflected, I conceived the idea of producing such waves in the earth by artificial means with the object of utilizing them for many useful purposes for which they are or might be found applicable. This problem was rendered extremely difficult owing to the immense dimensions of the planet, and consequently enormous movement of electricity or rate at which electrical energy had to be delivered in order to approximate, even in a remote degree, movements or rates which are manifestly attained in the displays of elec-

trical forces in nature and which seemed at first unrealizable by any human agencies, but by gradual and continuous improvements of a generator of electrical oscillations, which I have described in my Patents Nos. 645,576 and 649,621, I finally succeeded in reaching electrical movements or rates of delivery of electrical energy not only approximating, but, as shown in many comparative tests and measurements, actually surpassing those of lightning discharges, and by means of this apparatus I have found it possible to reproduce whenever desired phenomena in the earth the same as or similar to those due to such discharges. With the knowledge of the phenomena discovered by me and the means at command for accomplishing these results I am enabled not only to carry out many operations by the use of known instruments, but also to offer a solution for many important problems involving the operation or control of remote devices which for want of this knowledge and the absence of these means have heretofore been entirely impossible. For example, by the use of such a generator of stationary waves and receiving apparatus properly placed and adjusted in any other locality, however remote, it is practicable to transmit intelligible signals or to control or actuate at will any one or all of such apparatus for many other important and valuable purposes, as for indicating wherever desired the correct time of an observatory or for ascertaining the relative position of a body or distance of the same with reference to a given point or for determining the course of a moving object, such as a vessel at sea, the distance traversed by the same or its speed, or for producing many other useful effects at a distance dependent on the intensity, wave length, direction or velocity of movement, or other feature or property of disturbances of this character.

I shall typically illustrate the manner of applying my discovery by describing one of the specific uses of the same—namely, the transmission of intelligible signals or messages between distant points—and with this object reference is now made to the accompanying drawings, in which—

Figure 1 represents diagrammatically the generator which produces stationary waves in the earth, and Fig. 2 an apparatus situated in a remote locality for recording the effects of these waves.

In Fig. 1, A designates a primary coil forming part of a transformer and consisting generally of a few turns of a stout cable of inappreciable resistance, the ends of which are connected to the terminals of a source of powerful electrical oscillations, diagrammatically represented by B. This source is usually a condenser charged to a high potential and discharged in rapid succession through the primary, as in a type of transformer invented

by me and not well known; but when it is desired to produce stationary waves of great lengths an alternating dynamo of suitable construction may be used to energize the primary A. C is a spirally-wound secondary coil with- in the primary having the end nearer to the latter connected to the ground E' and the other end to an elevated terminal E. The physical constants of coil C, determining its period of vibration, are so chosen and adjusted that the secondary system E' C E is in the closest possible resonance with the oscillations impressed upon it by the primary A. It is, moreover, of the greatest importance in order to still further enhance the rise of pressure and to increase the electrical movement in the secondary system that its resistance be as small as practicable and its self-induction as large as possible under the conditions imposed. The ground should be made with great care, with the object of reducing its resistance. Instead of being directly grounded, as indicated, the coil C may be joined in series or otherwise to the primary A, in which case the latter will be connected to the plate E'; but be it that none or a part or all of the primary or exciting turns are included in the coil C the total length of the conductor from the ground-plate E' to the elevated terminal E should be equal to one-quarter of the wave length of the electrical disturbance in the system E' C E or else equal to that length multiplied by an odd number. This relation being observed, the terminal E will be made to coincide with the points of maximum pressure in the secondary or excited circuit, and the greatest flow of electricity will take place in the same. In order to magnify the electrical movement in the secondary as much as possible, it is essential that its inductive connection with the primary A should not be very intimate, as in ordinary transformers, but loose, so as to permit free oscillation—that is to say, their mutual induction should be small. The spiral form of coil C secures this advantage, while the turns near the primary A are subjected to a strong inductive action and develop a high initial electromotive force. These adjustments and relations being carefully completed and other constructive features indicated rigorously observed, the electrical movement produced in the secondary system by the inductive action of the primary A will be enormously magnified, the increase being directly proportionate to the inductance and frequency and inversely to the resistance of the secondary system. I have found it practicable to produce in this manner an electrical movement thousands of times greater than the initial—that is, the one impressed upon the secondary by the primary A—and I have thus reached activities or rates of flow of electrical energy in the system E' C E measured by many tens of thousands of horsepower. Such immense movements of elec-

tricity give rise to a variety of novel and striking phenomena, among which are those already described. The powerful electrical oscillations in the system $E'CE$ being communicated to the ground cause corresponding vibrations to be propagated to distant parts of the globe, whence they are reflected and by interference with the outgoing vibrations produce stationary waves the crests and hollows of which lie in parallel circles relatively to which the ground-plate E' may be considered to be the pole. Stated otherwise, the terrestrial conductor is thrown into resonance with the oscillations impressed upon it just like a wire. More than this, a number of facts ascertained by me clearly show that the movement of electricity through it follows certain laws with nearly mathematical rigor. For the present it will be sufficient to state that the planet behaves like a perfectly smooth or polished conductor of ir- appreciable resistance with capacity and self induction uniformly distributed along the axis of symmetry of wave propagation and transmitting slow electrical oscillations without sensible distortion and attenuation.

Besides the above three requirements seem to be essential to the establishment of the resonating condition.

First. The earth's diameter passing through the pole should be an odd multiple of the quarter wave length—that is, of the ratio between the velocity of light—and four times the frequency of the currents.

Second. It is necessary to employ oscillations in which the rate of radiation of energy into space in the form of hertzian or electromagnetic waves is very small. To give an idea, I would say that the frequency should be smaller than twenty thousand per second, though shorter waves might be practicable. The lowest frequency would appear to be six per second, in which case there will be but one node, at or near the ground-plate, and, paradoxical as it may seem, the effect will increase with the distance and will be greatest in a region diametrically opposite the transmitter. With oscillations still slower the earth, strictly speaking, will not resonate, but simply act as a capacity, and the variation of potential will be more or less uniform over its entire surface.

Third. The most essential requirement is, however, that irrespective of frequency the wave or wave-train should continue for a certain interval of time, which I have estimated to be not less than one-twelfth or probably 0.08484 of a second and which is taken in passing to and returning from the region diametrically opposite the pole over the earth's surface with a mean velocity of about four hundred and seventy-one thousand two hundred and forty kilometers per second.

The presence of the stationary waves may be detected in many ways. For instance, a circuit may be connected directly or indirect-

ively to the ground and to an elevated terminal and tuned to respond more effectively to the oscillations. Another way is to connect a tuned circuit to the ground at two points lying more or less in a meridian passing through the pole E' or, generally stated, to any two points of a different potential.

In Fig. 2 I have shown a device for detecting the presence of the waves such as I have used in a novel method of magnifying feeble effects which I have described in my Patents Nos. 685,953 and 685,955. It consists of a cylinder D , of insulating material, which is moved at a uniform rate of speed by clock-work or other suitable motive power and is provided with two metal rings F and F' , upon which bear brushes a and a' , connected, respectively, to the terminal plates P and P' . From the rings F and F' extend narrow metallic segments s and s' , which by the rotation of the cylinder D are brought alternately into contact with double brushes b and b' , carried by and in contact with conducting-holders h and h' , supported in metallic bearings g and g' , as shown. The latter are connected to the terminals T and T' of a condenser II , and it should be understood that they are capable of angular displacement as ordinary brush-supports. The object of using two brushes, as b and b' , in each of the holders h and h' is to vary at will the duration of the electrical contact of the plates P and P' with the terminals T and T' , to which is connected a receiving-circuit including a receiver R and a device d , performing the duty of closing the receiving-circuit at predetermined intervals of time and discharging the stored energy through the receiver. In the present case this device consists of a cylinder made partly of conducting and partly of insulating material c and c' , respectively, which is rotated at the desired rate of speed by any suitable means. The conducting part c is in good electrical connection with the shaft S and is provided with tapering segments f and f' , upon which slides a brush k , supported on a conducting-rod l , capable of longitudinal adjustment in a metallic support m . Another brush, n , is arranged to bear upon the shaft S , and it will be seen that whenever one of the segments f comes in contact with the brush k the circuit including the receiver R is completed and the condenser discharged through the same. By an adjustment of the speed or rotation of the cylinder d and a displacement of the brush k along the cylinder the circuit may be made to open and close in as rapid succession and remain open or closed during such intervals of time as may be desired. The plates P and P' , through which the electrical energy is conveyed to the brushes a and a' , may be at a considerable distance from each other in the ground or one in the ground and the other in the air, preferably at some height. If but one plate is connected to earth and the other maintained at an

elevation, the location of the apparatus must be determined with reference to the position of the stationary waves established by the generator, the effect evidently being greatest in a maximum and zero in a nodal region. On the other hand, if both plates be connected to earth the points of connection must be selected with reference to the difference of potential which it is desired to secure, the strongest effect being of course obtained when the plates are at a distance equal to half the wave length.

In illustration of the operation of the system let it be assumed that alternating electrical impulses from the generator are caused to produce stationary waves in the earth, as above described, and that the receiving apparatus is properly located with reference to the position of the nodal and ventral regions of the waves. The speed of rotation of the cylinder D is varied until it is made to turn in synchronism with the alternate impulses of the generator, and the position of the brushes k and k' is adjusted by angular displacement or otherwise, so that they are in contact with the segments S and S' during the periods when the impulses are at or near the maximum of their intensity. These requirements being fulfilled, electrical charges of the same sign will be conveyed to each of the terminals of the condenser, and with each fresh impulse it will be charged to a higher potential. The speed of rotation of the cylinder d being adjustable at will, the energy of any number of separate impulses may thus be accumulated in potential form and discharged through the receiver R upon the brush k coming in contact with one of the segments f' . It will be understood that the capacity of the condenser should be such as to allow the storing of a much greater amount of energy than is required for the ordinary operation of the receiver. Since by this method a relatively great amount of energy and in a suitable form may be made available for the operation of a receiver, the latter need not be very sensitive; but when the impulses are very weak or when it is desired to operate a receiver very rapidly any of the well-known sensitive devices capable of responding to very feeble influences may be used in the manner indicated or in other ways. Under the conditions described it is evident that during the continuance of the stationary waves the receiver will be acted upon by current impulses more or less intense, according to its location with reference to the maxima and minima of said waves; but upon interrupting or reducing the flow of the current the stationary waves will disappear or diminish in intensity. Hence a great variety of effects may be produced in a receiver, according to the mode in which the waves are controlled. It is practicable, however, to shift the nodal and ventral regions of the waves at will from the sending-station, as by

varying the length of the waves under observation of the above requirements. In this manner the regions of maximum and minimum effect may be made to coincide with any receiving station or stations. By impressing upon the earth two or more oscillations of different wave length a resultant stationary wave may be made to travel slowly over the globe, thus affording a great variety of useful effects in navigation. Evidently the course of a vessel may be easily determined without the use of a compass, as by a circuit connected to the earth at two points, for the effect exerted upon the circuit will be greatest when the plates P P' are lying on a meridian passing through ground-plate E' and will be nil when the plates are located at a parallel circle. If the nodal and ventral regions are maintained in fixed positions, the speed of a vessel carrying a receiving apparatus may be exactly computed from observations of the maxima and minima regions successively traversed. This will be understood when it is stated that the projections of all the nodes and loops on the earth's diameter passing through the pole or axis of symmetry of the wave movement are all equal. Hence in any region at the surface the wave length can be ascertained from simple rules of geometry. Conversely, knowing the wave length, the distance from the source can be readily calculated. In like ways the distance of one point from another, the latitude and longitude, the hour, &c., may be determined from the observation of such stationary waves. If several such generators of stationary waves, preferably of different lengths, were installed in judiciously-selected localities, the entire globe could be subdivided in definite zones of electric activity, and such and other important data could be at once obtained by simple calculation or readings from suitably-graduated instruments. Many other useful applications of my discovery will suggest themselves, and in this respect I do not wish to limit myself. Thus the specific plan herein described of producing the stationary waves might be departed from. For example, the circuit which impresses the powerful oscillations upon the earth might be connected to the latter at two points. In this application I have advanced various improvements in means and methods of producing and utilizing electrical effects which either in connection with my present discovery or independently of the same may be usefully applied. I desire it to be understood that such novel features as are not herein specifically claimed will form the subjects of subsequent applications.

What I now claim is—

1. The improvement in the art of transmitting electrical energy to a distance which consists in establishing stationary electrical waves in the earth, as set forth.
2. The improvement in the art of transmitting

ting electrical energy to a distance which consists in impressing upon the earth electrical oscillations of such character as to produce stationary electrical waves therein, as set forth.

3. The improvement in the art of transmitting and utilizing electrical energy which consists in establishing stationary electrical waves in the natural conducting media, and operating thereby one or more receiving devices remote from the source of energy, as set forth.

4. The improvement in the art of transmitting and utilizing electrical energy which consists in establishing in the natural conducting media, stationary electrical waves of predetermined length and operating thereby one or more receiving devices remote from the source of energy and properly located with respect

to the position of such waves, as herein set forth.

5. The improvement in the art of transmitting and utilizing electrical energy, which consists in establishing in the natural conducting media, stationary electrical waves, and varying the length of such waves, as herein set forth.

6. The improvement in the art of transmitting and utilizing electrical energy, which consists in establishing in the natural conducting media stationary electrical waves and shifting the nodal and ventral regions of these waves, as described.

NIKOLA TESLA.

Witnesses:

M. LAWSON DYER,

BENJAMIN MILLER

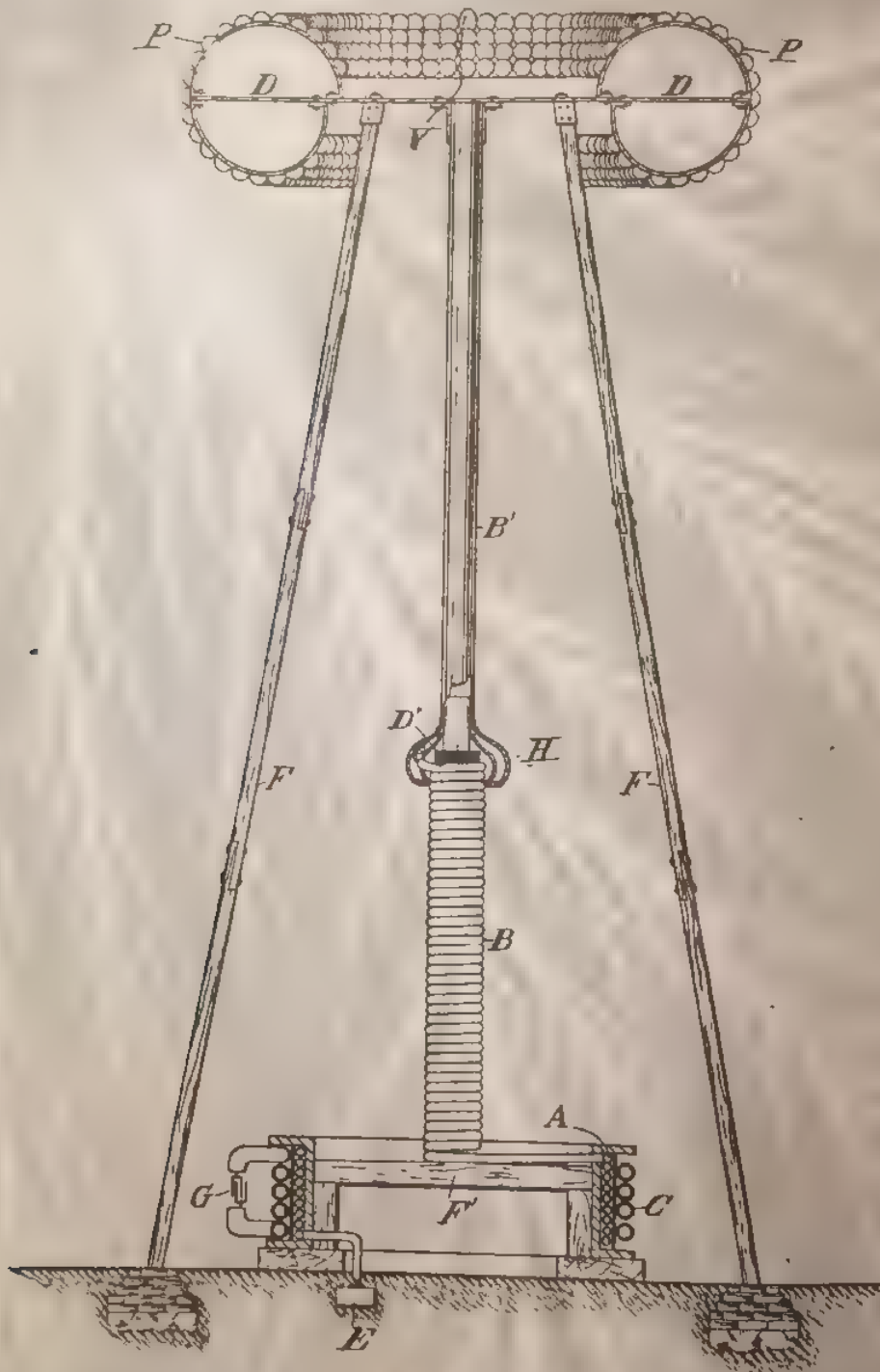
N. TESLA.

APPARATUS FOR TRANSMITTING ELECTRICAL ENERGY.

APPLICATION FILED JAN. 18, 1902. RENEWED MAY 4, 1907.

1,119,732.

Patented Dec. 1, 1914.



WITNESSES

M. Lawson Dyer
Benjamin Miller

Nikola Tesla, INVENTOR,

BY *Kenn. Page & Cooper*
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

NIKOLA TESLA, OF NEW YORK, N. Y.

APPARATUS FOR TRANSMITTING ELECTRICAL ENERGY.

1,119,732.

Specification of Letters Patent.

Patented Dec. 1, 1914.

Application filed January 18, 1902 Serial No 90,245. Renewed May 4, 1907. Serial No. 371,817.

To all whom it may concern:

Be it known that I, NIKOLA TESLA, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Apparatus for Transmitting Electrical Energy, of which the following is a specification, reference being had to the drawing accompanying and forming a part of the same.

In endeavoring to adapt currents or discharges of very high tension to various valuable uses, as the distribution of energy through wires from central plants to distant places of consumption, or the transmission of powerful disturbances to great distances, through the natural or non-artificial media, I have encountered difficulties in confining considerable amounts of electricity to the conductors and preventing its leakage over their supports, or its escape into the ambient air, which always takes place when the electric surface density reaches a certain value.

The intensity of the effect of a transmitting circuit with a free or elevated terminal is proportionate to the quantity of electricity displaced, which is determined by the product of the capacity of the circuit, the pressure, and the frequency of the currents employed. To produce an electrical movement of the required magnitude it is desirable to charge the terminal as highly as possible, for while a great quantity of electricity may also be displaced by a large capacity charged to low pressure, there are disadvantages met with in many cases when the former is made too large. The chief of these are due to the fact that an increase of the capacity entails a lowering of the frequency of the impulses or discharges and a diminution of the energy of vibration. This will be understood when it is borne in mind, that a circuit with a large capacity behaves as a slackspring, whereas one with a small capacity acts like a stiff spring, vibrating more vigorously. Therefore, in order to attain the highest possible frequency, which for certain purposes is advantageous and, apart from that, to develop the greatest energy in such a transmitting circuit, I employ a terminal of relatively small capacity, which I charge to as high a pressure as practicable. To accomplish this result I have found it imperative to so construct the elevated conductor, that its outer surface, on

which the electrical charge chiefly accumulates, has itself a large radius of curvature, or is composed of separate elements which, irrespective of their own radius of curvature, are arranged in close proximity to each other and so, that the outside ideal surface enveloping them is of a large radius. Evidently, the smaller the radius of curvature the greater, for a given electric displacement, will be the surface-density and, consequently, the lower the limiting pressure to which the terminal may be charged without electricity escaping into the air. Such a terminal I secure to an insulating support entering more or less into its interior, and I likewise connect the circuit to it inside or, generally, at points where the electric density is small. This plan of constructing and supporting a highly charged conductor I have found to be of great practical importance, and it may be usefully applied in many ways.

Referring to the accompanying drawing, the figure is a view in elevation and part section of an improved free terminal and circuit of large surface with supporting structure and generating apparatus.

The terminal D consists of a suitably shaped metallic frame, in this case a ring of nearly circular cross section, which is covered with half spherical metal plates P P, thus constituting a very large conducting surface, smooth on all places where the electric charge principally accumulates. The frame is carried by a strong platform expressly provided for safety appliances, instruments of observation, etc., which in turn rests on insulating supports F F. These should penetrate far into the hollow space formed by the terminal, and if the electric density at the points where they are bolted to the frame is still considerable, they may be specially protected by conducting hoods as H.

A part of the improvements which form the subject of this specification, the transmitting circuit, in its general features, is identical with that described and claimed in my original Patents Nos. 645,576 and 649,621. The circuit comprises a coil A which is in close inductive relation with a primary C, and one end of which is connected to a ground-plate E, while its other end is led through a separate self-induction coil B and a metallic cylinder B' to the terminal D.

The connection to the latter should always be made at, or near the center, in order to secure a symmetrical distribution of the current, as otherwise, when the frequency is very high and the flow of large volume, the performance of the apparatus might be impaired. The primary C may be excited in any desired manner, from a suitable source of currents G, which may be an alternator or condenser, the important requirement being that the resonant condition is established, that is to say, that the terminal D is charged to the maximum pressure developed in the circuit, as I have specified in my original patents before referred to. The adjustments should be made with particular care when the transmitter is one of great power, not only on account of economy, but also in order to avoid danger. I have shown that it is practicable to produce in a resonating circuit as E A B B' D immense electrical activities, measured by tens and even hundreds of thousands of horse-power, and in such a case, if the points of maximum pressure should be shifted below the terminal D, along coil B, a ball of fire might break out and destroy the support F or anything else in the way. For the better appreciation of the nature of this danger it should be stated, that the destructive action may take place with inconceivable violence. This will cease to be surprising when it is borne in mind, that the entire energy accumulated in the excited circuit, instead of requiring, as under normal working conditions, one quarter of the period or more for its transformation from static to kinetic form, may spend itself in an incomparably smaller interval of time, at a rate of many millions of horse power. The accident is apt to occur when, the transmitting circuit being strongly excited, the impressed oscillations upon it are caused, in any manner more or less sudden, to be more rapid than the free oscillations. It is therefore advisable to begin the adjustments with feeble and somewhat slower impressed oscillations, strengthening and quickening them gradually, until the apparatus has been brought under perfect control. To increase the safety, I provide on a convenient place, preferably on terminal D, one or more elements or plates either of somewhat smaller radius of curvature or protruding more or less beyond the others (in which case they may be of larger radius of curvature) so that, should the pressure rise to a value, beyond which it is not desired to go, the powerful discharge may dart out there and lose itself harmlessly in the air. Such a plate, performing a function similar to that of a safety valve on a high pressure reservoir, is indicated at V.

Still further extending the principles underlying my invention, special reference is made to coil B and conductor B'. The

latter is in the form of a cylinder with smooth or polished surface of a radius much larger than that of the half spherical elements P P, and widens out at the bottom into a hood H, which should be slotted to avoid loss by eddy currents and the purpose of which will be clear from the foregoing. The coil B is wound on a frame or drum D' of insulating material, with its turns close together. I have discovered that when so wound the effect of the small radius of curvature of the wire itself is overcome and the coil behaves as a conductor of large radius of curvature, corresponding to that of the drum. This feature is of considerable practical importance and is applicable not only in this special instance, but generally. For example, such plates at P P of terminal D, though preferably of large radius of curvature, need not be necessarily so, for provided only that the individual plates or elements of a high potential conductor or terminal are arranged in proximity to each other and with their outer boundaries along an ideal symmetrical enveloping surface of a large radius of curvature, the advantages of the invention will be more or less fully realized. The lower end of the coil B—which, if desired, may be extended up to the terminal D—should be somewhat below the uppermost turn of coil A. This, I find, lessens the tendency of the charge to break out from the wire connecting both and to pass along the support F.

Having described my invention, I claim:

1. As a means for producing great electrical activities a resonant circuit having its outer conducting boundaries, which are charged to a high potential, arranged in surfaces of large radii of curvature so as to prevent leakage of the oscillating charge, substantially as set forth.

2. In apparatus for the transmission of electrical energy a circuit connected to ground and to an elevated terminal and having its outer conducting boundaries, which are subject to high tension, arranged in surfaces of large radii of curvature substantially as, and for the purpose described.

3. In a plant for the transmission of electrical energy without wires, in combination with a primary or exciting circuit a secondary connected to ground and to an elevated terminal and having its outer conducting boundaries, which are charged to a high potential, arranged in surfaces of large radii of curvature for the purpose of preventing leakage and loss of energy, substantially as set forth.

4. As a means for transmitting electrical energy to a distance through the natural media a grounded resonant circuit, comprising a part upon which oscillations are impressed and another for raising the ten-

sion, having its outer conducting boundaries on which a high tension charge accumulates arranged in surfaces of large radii of curvature, substantially as described.

5 5. The means for producing excessive electric potentials consisting of a primary exciting circuit and a resonant secondary having its outer conducting elements which are subject to high tension arranged in proximity to each other and in surfaces of large radii of curvature so as to prevent leakage of the charge and attendant lowering of potential, substantially as described.

10 6. A circuit comprising a part upon which oscillations are impressed and another part for raising the tension by resonance, the latter part being supported on places of low electric density and having its outermost conducting boundaries arranged in surfaces of large radii of curvature, as set forth.

15 7. In apparatus for the transmission of electrical energy without wires a grounded circuit the outer conducting elements of which have a great aggregate area and are arranged in surfaces of large radii of curvature so as to permit the storing of a high charge at a small electric density and prevent loss through leakage, substantially as described.

8. A wireless transmitter comprising in combination a source of oscillations as a condenser, a primary exciting circuit and a secondary grounded and elevated conductor the outer conducting boundaries of which are in proximity to each other and arranged in surfaces of large radii of curvature, substantially as described.

9. In apparatus for the transmission of electrical energy without wires an elevated conductor or antenna having its outer high potential conducting or capacity elements arranged in proximity to each other and in surfaces of large radii of curvature so as to overcome the effect of the small radius of curvature of the individual elements and leakage of the charge, as set forth.

10. A grounded resonant transmitting circuit having its outer conducting boundaries arranged in surfaces of large radii of curvature in combination with an elevated terminal of great surface supported at points of low electric density, substantially as described.

NIKOLA TESLA.

Witnesses:

M. LAMSON DYER,
RICHARD DONOVAN.

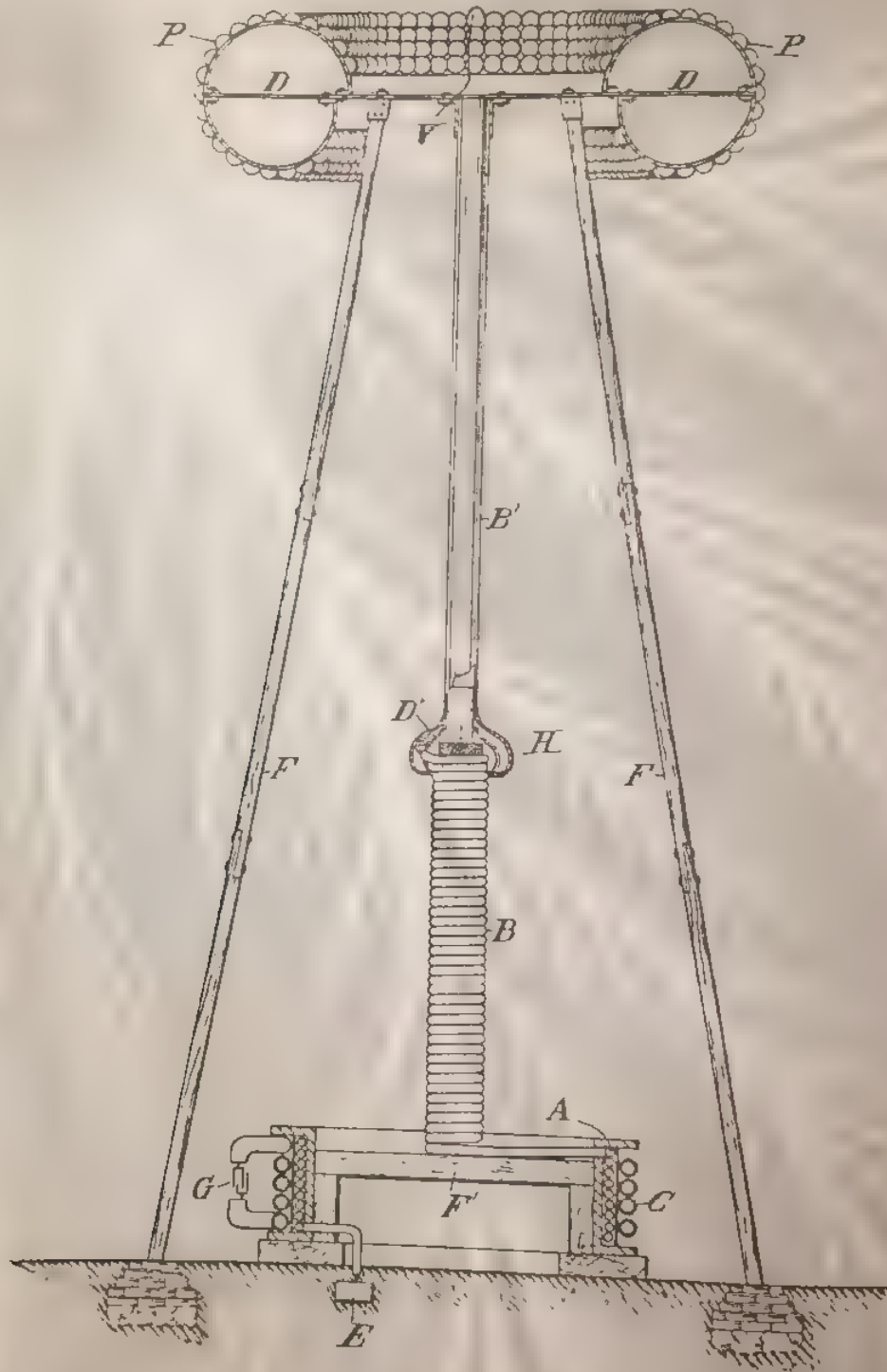
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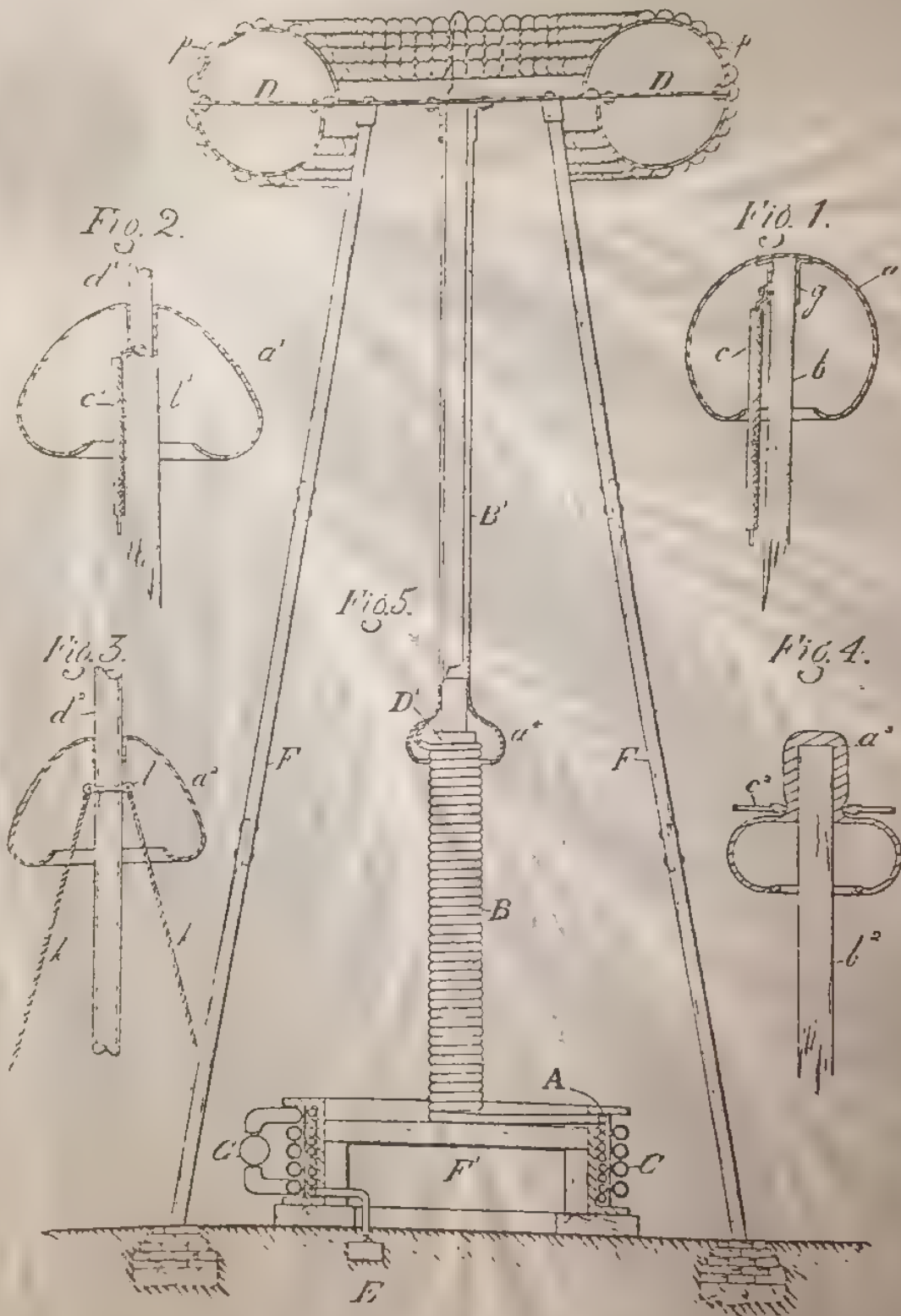


WITNESSES

M. Lawson Dyer
Benjamin Miller

Nikola Tesla, INVENTOR,

BY *Kerr, Page & Cooper*,
 his ATTORNEYS.



WITNESSES

J. Lawson Dyer
Benjamin Kuller.

Nikola Tesla, INVENTOR,

BY Kent, Page & Cooper,
his ATTORNEYS.

WARDENCLYFFE PROPERTY

FORECLOSURE

APPEAL

~~moved to make it definite and certain in several respects, particularly first, to require the defendant to state which of the allegations of the~~

Sup. Ct.)

WARDEN V. TESLA.

853

~~the defendant to state which of the allegations of the complaint are denied or admitted; second, to deny the allegation of the complaint, that the plaintiff and the defendant entered into the agreement set forth in the complaint, is denied by the defendant. The answer is not sufficiently definite and it cannot be determined from it whether the defendant admits the contract as pleaded. There is no denial conforming to the requirements of the Code of Civil Procedure. The answer appealed from is correct, except as to the failure to require the defendant to plead by admission or denial to the contract set forth in the complaint, as being that entered into between the parties. The answer is quite indefinite as to whether the contract is admitted or denied.~~

~~The point of practice involved in the motion. Under rule 22 of the general rules of practice, this motion should have been made within 20 days from the service of the answer. Brooks v. Hanchett, 36 Hun, 71. It was not so made; but that rule does not apply here, because section 793 of the Code of Civil Procedure provides that where a notice must be given or a paper served within a specified time, before an act is to be done, or where the adverse party has a specified time for notice or service within which to do an act, if service of the paper requiring action of the adverse party is made through the post office, the time required or allowed is double the time specified. This answer was served through the post office, and the plaintiff insists that that gave him the right to double time within which to make this motion. His position is well taken, and the motion was made in due time. The order must be modified as above suggested, with costs of this appeal to the appellant. All concur.~~

(93 App. Div. 520)

WARDEN V. TESLA.

(Supreme Court, Appellate Division, Second Department. April 22, 1904.)

1. OPTION CONTRACT—CONSIDERATION—COMPUTATION—ACTUAL ACREAGE.

The measure of liability of one contracting to pay as a consideration for an option on certain real property a sum equal to the annual interest at 4 per cent. of the purchase price of the land, fixed at \$25 per acre, and describing the tract by metes and bounds and distances, and stating that it contains 410 acres, more or less, is determined by the actual acreage, and not by the number of paper acres.

2. TRIAL—EXCEPTIONS—SUFFICIENCY.

In an action on an option contract for the purchase of land binding defendant to pay as consideration therefor a sum equal to the annual interest at 4 per cent. of the purchase price, fixed at \$25 per acre, the court admitted in evidence over defendant's objection a letter from his agent demanding a sum equal to 4 per cent. of the purchase price, calculated on the assumption that the tract contained 410 acres, as stated in the contract. Held, that defendant's objection that such sum was not due, and that the question whether defendant's liability was measured by the actual acreage or by the number of the paper acres.

3. ACTION ON OPTION CONTRACT—EVIDENCE—EXCLUSION—ERROR.

Where in an action on an option contract for the purchase of land said to contain 410 acres, binding defendant to pay as consideration therefor

moved to make it definite and certain in several respects, particularly
 1st. to require the defendant to state which of the allegations of the

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a sum equal to the annual interest at 4 per cent. of the purchase price, fixed at \$25 per acre, for the recovery of a sum equal to 4 per cent. of the purchase price, calculated on the assumption that the tract contained 410 acres, as stated in the contract, plaintiff gave testimony that the tract contained 420 or 430 acres, the exclusion of evidence offered by defendant as to the number of acres in the tract was erroneous.

Appeal from Suffolk County Court.

Action by James S. Warden against Nikola Tesla. From a judgment for plaintiff, and from an order denying a motion for a new trial, defendant appeals. Reversed.

Argued before HIRSCHBERG, P. J., and BARTLETT, WOODWARD, JENKS, and HOOKER, JJ.

Edwin B. Smith, for appellant.

William L. Marshall (Henry B. Johnson, on the brief), for respondent.

HOOKER, J. This action arose out of an alleged breach of defendant's contract to pay the plaintiff, as consideration for an option on certain real property, given by the latter, a sum equal to the annual interest at 4 per cent. of the purchase price of the land in quarterly installments in advance. The purchase price is provided to be \$25 per acre of a tract described by metes and bounds, its description concluding in these words: "Containing four hundred and ten acres, more or less." Upon the trial the plaintiff testified that he had "computed the number of acres contained in the metes and bounds contained in this agreement, * * * as well as I could from the data I have." To the question, "How much is it?" the defendant entered the general objection that it was incompetent, immaterial, and irrelevant, and the court observed that it might be objectionable "on the data which he has," to which the witness volunteered, "Well, I have." The plaintiff further testified, in answer to his counsel's questions, and without exception or further objection by the defendant, that it contained about 420 or 430 acres, that the purchase price of 410 acres at \$25 per acre was \$10,250, and that the interest on that sum at 4 per cent. per annum for three months was \$102.50. It appeared that the defendant had failed to pay six installments of \$102.50, that sum being the amount of each installment, based upon the 4 per cent. of the purchase price of 410 acres at \$25 per acre. The defendant contends upon this appeal that, inasmuch as the agreement to purchase was at a given amount per acre, it was incumbent upon the plaintiff to show how many acres were actually contained in the piece described, and the purchase price determined thus, that the percentage thereof, which was to be the consideration for the option, might be computed therefrom; and he invokes the doctrine that, where no sum is determined upon for the tract as a whole, but it is to be taken at so much an acre, the quantity of actual acreage on the surface of the ground must be correctly ascertained to fix the consideration to be paid. The rule is plainly applicable to the contract under consideration. The authorities to sustain the contention are so abundant and so firmly establish the rule that more than a citation of them would serve no useful purpose. *Wilson v. Randall*, 67 N. Y. 338; *Witbeck v. Waine*, 16 N. Y. 532; *Murdock v. Gilchrist*, 52 N. Y. 242; *Tarbell v. Bowman*,

341; *Cardinal v. Hadley*, 158 Mass. 352, 33 N. E. 575, 35
Rep. 492; *Paine v. Upton*, 87 N. Y. 327, 41 Am. Rep. 371;
Bernd, 132 N. Y. 370, 30 N. E. 743. The measure of the
tract was determined not by the number of paper acres,
but by the actual acreage. While the description in the agreement
is full and complete it is based upon monuments and fixed
points, and a cardinal point in the description is the Woodville
road. Although the lines are stated to be of a given length in feet,
a survey might easily reveal that a strict measurement of the length
of those lines would not accord with Dickerson's lands or the road.
Hence the actual acreage of the tract might be greater or less than 410.

The objection we have referred to is held by the plaintiff insufficient
to raise this question because of the absence of an exception, and this
is true, but the defendant did except to the overruling of his objection
—stated to be on the ground that it is a demand for the payment of
\$102.50, which sum does not appear to be due—to the admission in
evidence of a letter from the plaintiff's agents to the defendant, de-
manding that sum as quarterly payment under the terms of the con-
tract, and this exception was taken to a ruling of the learned trial court
at variance with the correct principles of law applicable to the matter
in issue, and thereby the question discussed is raised for our review.
The erroneous theory upon which the judgment in plaintiff's favor
was based requires a reversal.

The record presents additional evidence for the reversal of the judg-
ment. The plaintiff was called as a witness, and asked if he had com-
puted the number of acres contained in the metes and bounds as de-
scribed in the agreement, and upon his affirmative answer was further
asked questions to which he replied that the tract contained something
over 400—about 420 or 430—acres. No objection was entered. The
plaintiff was sufficiently skilled in mathematics correctly to make the
computation from the data of the description of the property appearing
in the contract. William S. Jones, the only witness called by the de-
fendant, read the description, and was then asked by defendant's coun-
sel: "Now, have you made a computation of the quantity—of the
number of acres—that would be included in those metes and bounds
there mentioned?" The plaintiff objected to the question on the
ground that it was incompetent, immaterial, and irrelevant, but not
on the ground that the witness was incompetent. It was excluded
by the court, and the defendant excepted. Under the view I take
of the true interpretation of this contract, by virtue of the authorities
cited above, the question would have been incompetent and immaterial
had it not been for the fact that the plaintiff himself invited and
tendered an issue as to the number of paper acres as distinguished from
the number of acres actually existing on the surface of the ground.
One of the witnesses thought the number of acres appearing, based up-
on a computation of the metes and bounds of the contract, was more
than 410. It was surely competent for the defendant to show, if he
could, and if such was the fact, that the acreage was less than that
amount. It is fair to assume that such would have been the nature of
the testimony of the witness Jones had he been allowed to answer. Be-

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(Sup. Ct.

the initiative of the plaintiff the case was tried upon the
at the paper acreage should govern, he cannot complain of
on the part of the defendant to show less acreage than he
claimed. Except for one or two phrases in the description
indefinite, such as "southerly, about three degrees west," the
of the computation was accurately solvable by any careful
school student who understood the principles of trigonometry
possessed tables in trigonometry. At any rate, plaintiff claimed to
have made a calculation, and gave his results, and should not have
been allowed to prevent the defendant from attempting to show the
contrary of what he had proved. The evidence was offered by the
defendant for the purpose of traversing an essential point in plain-
tiff's case, and its exclusion constituted reversible error.

Inasmuch as the question is likely to arise upon a retrial, it is proper
to state that the defendant's claim of misdescription of plaintiff's ca-
pacity is, in the light of recent decisions, not well taken. *Hoffman*
House v. Foote, 172 N. Y. 348, 65 N. E. 169; *Henricus v. Englert*, 137
N. Y. 488, 33 N. E. 550.

The judgment should be reversed, and a new trial ordered.

Judgment and order of the County Court reversed, and a new trial ordered;
costs to abide the event. All concur; BARTLETT and JENKS, JJ., on last
ground stated in the opinion.

(93 App. Div. 535)

PEOPLE ex rel. EASTMOND v. OAKLEY, Commissioner of Water Supply,
Gas, and Electricity, et al.

(Supreme Court, Appellate Division, Second Department. April 22, 1904.)

1. MUNICIPAL CORPORATIONS—OFFICERS—WATER REGISTRAR OF BROOKLYN—
ABOLITION OF OFFICE.

Laws 1888, p. 1042, c. 583, tit. 15, § 2 (charter of the former city of
Brooklyn), created a bureau for the collection of revenue arising from
the sale and use of water, and provided that the chief officer should be
called the "water registrar." The Charter of New York, § 1615, provides
that all offices forming a part of the local government of the municipal
and public corporations and parts thereof which were on the 1st of Jan-
uary, 1898, united and consolidated into the city of New York, are abo-
lished as to all territory embraced within the limits of the city, except as
otherwise provided. *Held*, that under this section and section 1536, rel-
ative to the retention of office by clerks in the public employ in territory
consolidated, and section 1543, relative to heads of departments and their
control over subordinates, the office of water registrar of the city of
Brooklyn was abolished.

2. SAME—"HEADS OF BUREAUS."

The Charter of 1897 of the city of New York, § 458, authorized the
commissioner of the department of water supply to organize such bureau
as he might deem necessary, and directed that he locate a branch of each
of the bureaus in the public hall of the borough of Brooklyn. Under this
authority the commissioner organized the bureau of civil engineer, and
the bureau for the collection of revenue from the sale and use of water,
and ordered that the chief officer of the latter be known as "water reg-
istrar" and that a branch office of the latter be maintained in the bor-
ough of Brooklyn. *Held*, that the person in charge of the branch office
of the bureau for the collection of revenue from the sale and use of wa-
ter in the borough of Brooklyn was not the "head of a bureau" within

moved to make it definite and certain in several respects, particularly first, to require the defendant to state which of the allegations of the first paragraph of the complaint are denied or admitted; second, to state whether the allegation of the complaint, that the plaintiff and the defendant entered into the agreement set forth in the complaint, is admitted or denied by the defendant. The answer is not sufficiently definite, and it cannot be determined from it whether the defendant admits or denies the contract as pleaded. There is no denial conforming to the requirements of the Code of Civil Procedure.

The order appealed from is correct, except as to the failure to require the defendant to plead by admission or denial to the contract set forth in the complaint, as being that entered into between the parties. The answer is quite indefinite as to whether the contract is admitted or denied.

There is a point of practice involved in the motion. Under rule 22 of the general rules of practice, this motion should have been made within 20 days from the service of the answer. *Brooks v. Hanchett*, 86 Hun, 71. It was not so made; but that rule does not apply here, because section 798 of the Code of Civil Procedure provides that where a notice must be given or a paper served within a specified time, before an act is to be done, or where the adverse party has a specified time after notice or service within which to do an act, if service of the paper requiring action of the adverse party is made through the post office, the time required or allowed is double the time specified. This answer was served through the post office, and the plaintiff insists that that gave him the right to double time within which to make this motion. His position is well taken, and the motion was made in due time. The order must be modified as above suggested, with costs of this appeal to the appellant. All concur.

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1. OPTION CONTRACT—CONSIDERATION—COMPUTATION—ACTUAL ACREAGE.

The measure of liability of one contracting to pay as a consideration for an option on certain real property a sum equal to the annual interest at 4 per cent. of the purchase price of the land, fixed at \$25 per acre, and describing the tract by metes and bounds and distances, and stating that it contains 410 acres, more or less, is determined by the actual acreage, and not by the number of paper acres.

2. TRIAL—EXCEPTIONS—SUFFICIENCY.

In an action on an option contract for the purchase of land binding defendant to pay as consideration therefor a sum equal to the annual interest at 4 per cent. of the purchase price, fixed at \$25 per acre, the court admitted in evidence over defendant's objection a letter from his agent demanding a sum equal to 4 per cent. of the purchase price, calculated on the assumption that the tract contained 410 acres, as stated in the contract. *Held*, that defendant's objection that such sum was not due sufficiently raised the question whether defendant's liability was measured by the actual acreage or by the number of the paper acres.

3. ACTION ON OPTION CONTRACT—EVIDENCE—EXCLUSION—ERROR.

Where in an action on an option contract for the purchase of land said to contain 410 acres, binding defendant to pay as consideration therefor

a sum equal to the annual interest at 4 per cent. of the purchase price, fixed at \$25 per acre, for the recovery of a sum equal to 4 per cent. of the purchase price, calculated on the assumption that the tract contained 410 acres, as stated in the contract, plaintiff gave testimony that the tract contained 420 or 430 acres, the exclusion of evidence offered by defendant as to the number of acres in the tract was erroneous.

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103 Mass. 341; *Cardinal v. Hadley*, 158 Mass. 352, 33 N. E. 575, 35 Am. St. Rep. 492; *Paine v. Upton*, 87 N. Y. 327, 41 Am. Rep. 371; *Gallup v. Bernd*, 132 N. Y. 370, 30 N. E. 743. The measure of the defendant's liability was determined not by the number of paper acres, but by the actual acreage. While the description in the agreement seems to be full and complete it is based upon monuments and fixed bounds. The tract is bounded on one side by the lands of the late Dickerson, and a cardinal point in the description is the Woodville road. Although the lines are stated to be of a given length in feet, a survey might easily reveal that a strict measurement of the length of those lines would not accord with Dickerson's lands or the road. Hence the actual acreage of the tract might be greater or less than 410.

The objection we have referred to is held by the plaintiff insufficient to raise this question because of the absence of an exception, and this is true; but the defendant did except to the overruling of his objection stated to be on the ground that it is a demand for the payment of \$102.50, which sum does not appear to be due—to the admission in evidence of a letter from the plaintiff's agents to the defendant, demanding that sum as quarterly payment under the terms of the contract, and this exception was taken to a ruling of the learned trial court at variance with the correct principles of law applicable to the matter in issue, and thereby the question discussed is raised for our review. The erroneous theory upon which the judgment in plaintiff's favor was based requires a reversal.

The record presents additional evidence for the reversal of the judgment. The plaintiff was called as a witness, and asked if he had computed the number of acres contained in the metes and bounds as described in the agreement, and upon his affirmative answer was further asked questions to which he replied that the tract contained something over 400—about 420 or 430—acres. No objection was entered. The plaintiff was sufficiently skilled in mathematics correctly to make the computation from the data of the description of the property appearing in the contract. William S. Jones, the only witness called by the defendant, read the description, and was then asked by defendant's counsel: "Now, have you made a computation of the quantity—of the number of acres—that would be included in those metes and bounds there mentioned?" The plaintiff objected to the question on the ground that it was incompetent, immaterial, and irrelevant, but not on the ground that the witness was incompetent. It was excluded by the court, and the defendant excepted. Under the view I take of the true interpretation of this contract, by virtue of the authorities cited above, the question would have been incompetent and immaterial had it not been for the fact that the plaintiff himself invited and tendered an issue as to the number of paper acres as distinguished from the number of acres actually existing on the surface of the ground. One of the witnesses thought the number of acres appearing, based upon a computation of the metes and bounds of the contract, was more than 410. It was surely competent for the defendant to show, if he could, and if such was the fact, that the acreage was less than that amount. It is fair to assume that such would have been the nature of the testimony of the witness Jones had he been allowed to answer. Be-

cause at the initiative of the plaintiff the case was tried upon the theory that the paper acreage should govern, he cannot complain of evidence on the part of the defendant to show less acreage than he himself claimed. Except for one or two phrases in the description slightly indefinite, such as "southerly, about three degrees west," the problem of the computation was accurately solvable by any careful high-school student who understood the principles of trigonometry and possessed tables in trigonometry. At any rate, plaintiff claimed to have made a calculation, and gave his results, and should not have been allowed to prevent the defendant from attempting to show the contrary of what he had proved. The evidence was offered by the defendant for the purpose of traversing an essential point in plaintiff's case, and its exclusion constituted reversible error.

Inasmuch as the question is likely to arise upon a retrial, it is proper to state that the defendant's claim of misdescription of plaintiff's capacity is, in the light of recent decisions, not well taken. *Hoffman House v. Foote*, 172 N. Y. 348, 65 N. E. 169; *Henricus v. Englert*, 137 N. Y. 488, 33 N. E. 550.

The judgment should be reversed, and a new trial ordered.

Judgment and order of the County Court reversed, and a new trial ordered; costs to abide the event. All concur; BARTLETT and JENKS, JJ., on last ground stated in the opinion.

(82 App. Div. 535)

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Laws 1888, p. 1842, c. 583, tit. 15, § 2 (charter of the former city of Brooklyn), created a bureau for the collection of revenue arising from the sale and use of water, and provided that the chief officer should be called the "water registrar." The Charter of New York, § 1615, provides that all offices forming a part of the local government of the municipal and public corporations and parts thereof which were on the 1st of January, 1898, united and consolidated into the city of New York, are abolished as to all territory embraced within the limits of the city, except as otherwise provided. *Held*, that under this section and section 1536, relative to the retention of office by clerks in the public employ in territory consolidated, and section 1543 relative to heads of departments and their control over subordinates, the office of water registrar of the city of Brooklyn was abolished.

2. SAME—"HEADS OF BUREAUS."

The Charter of 1897 of the city of New York, § 458, authorized the commissioner of the department of water supply to organize such bureau as he might deem necessary, and directed that he locate a branch of each of the bureaus in the public hall of the borough of Brooklyn. Under this authority the commissioner organized the bureau of civil engineer, and the bureau for the collection of revenue from the sale and use of water, and ordered that the chief officer of the latter be known as "water registrar" and that a branch office of the latter be maintained in the borough of Brooklyn. *Held*, that the person in charge of the branch office of the bureau for the collection of revenue from the sale and use of water in the borough of Brooklyn was not the "head of a bureau" within

as security
 should be maintained
 in the most
 efficient manner
 possible

Point 1

The chief of B-2 is now assigned as security
 only and not as absolute emergency
 Point 2

200. Pett's predecessor entered as major in
 division and Pett's, which is
 changed,

It is because they intend to maintain
 peace - which is what they must do.

to Pett's, compelled to act.

The judgment should be reviewed. That
 division must have guidance for the

The most important thing is that - couldn't be a failure

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Supreme Court,

APPELLATE DIVISION—SECOND DEPARTMENT.

CLOVER BOLDT MILES AND GEORGE C. BOLDT, JR., AS EXECUTORS OF THE LAST WILL AND TESTAMENT OF GEORGE C. BOLDT, DECEASED,

Plaintiffs-Respondents,

against

NIKOLA TESLA,

Defendant-Appellant,

THOMAS G. SHEARMAN,

Defendant-Respondent,

et al.,

Case on Appeal.

WILLIAM RALPH JIN, JR.,

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BALDWIN & HUTCHINS,

Attorneys for Plaintiffs-Respondents.

WILLARD A. MITCHELL,

Attorney for Defendant-Respondent, THOMAS

G. SHEARMAN.

March 17, 1923

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March 17, 1923

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Supreme Court of the State of New York, 1

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the Last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE WAL-
DORF - ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westinghouse,
Church, Kerr & Company, ORANGE
T. FANNING and THOMAS O'DON-
NELL, JOHN C. WAIT, individually
and as receiver of Wait and Foster,
GEORGE H. D. FLETCHER,

Defendants.

2

3

Statement Under Rule 234.

This action was commenced by the service of a summons and complaint on the defendant Nikola Tesla on the 3rd day of February, 1921. The Answer of the defendant Nikola Tesla was served on the 9th day of April, 1921, and contained a

Statement Under Rule 234.

4 counterclaim, issue being joined on the 25th day of April, 1921, by the service of plaintiffs' reply. The defendant Thomas G. Shearman appeared by Willard A. Mitchell made answer to the complaint but did not serve a copy of such answer upon the defendant Nikola Tesla, remaining defendants served a notice of appearance and waivers.

The action was referred to Rowland Miles, Esq., to hear and determine by order dated the 4th day of November 1921. The case was tried before Rowland Miles, Esq., commencing on the 29th day of December 1921 and ending on the 28th day of February 1922.

5 The decision and findings of the referee in favor of plaintiffs were made and filed on the 13 day of April, 1922, and judgment confirming said report and of foreclosure and sale was entered on the 20th day of April, 1922.

Notice of Appeal by Nikola Tesla was filed on the 11th day of May, 1922.

Plaintiffs appeared by Baldwin & Hutchins, their attorneys; the defendant Nikola Tesla appeared by William Rasquin, Jr., his attorney and the defendant Thomas G. Shearman appeared by Willard A. Mitchell his attorney. The full names
6 of the parties appear in the above title.

There has been no change of parties or of attorneys.

Notice of Appeal.

7

SUPREME COURT, SUFFOLK COUNTY.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the Last
Will and Testament of George C
Boldt, Deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried. DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

8

SIRS:

PLEASE TAKE NOTICE that the defendant Nikola Tesla hereby appeals to the Appellate Division of the Supreme Court for the Second Department from the judgment in the above entitled action made at a Special Term of the Supreme Court, Part 2, held at Kings County, dated the 18th day of April, 1922, and entered in the office of the Clerk of the County of Suffolk, on the 20th day of April 1922, confirming the report of Rowland Miles, Esq., Referee, and directing a sale of the mortgaged

Notice of Appeal.

10 premises therein described under the direction of
said Rowland Miles, Esq., as Referee, and from
each and every part of said judgment.

Dated, May 9, 1922.

Yours &c.,

WILLIAM RASQUIN, JR.

Attorney for Defendant,

Nikola Tesla,

305 Broadway,

Borough of Manhattan,

New York City.

To:

11 FRED S. PULVER, Esq.,
Clerk of Suffolk County

BALDWIN & HUTCHINS, Esqs.,
120 Broadway
Attorneys for Plaintiffs

WILLARD A. MITCHELL, Esq.,
141 Broadway
Attorney for Defendant
Thomas G. Shearman

CRAVATH, HENDERSON, LEFFINGWELL &
DEGERSDORFF, Esqs.,

12 Attorneys for Defendant Dwight P.
Robinson & Co. Inc.

Summons.

13

SUPREME COURT OF THE STATE OF
NEW YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

14

TO THE ABOVE NAMED DEFENDANTS:

YOU ARE HEREBY SUMMONED to answer the com-
plaint in this action and to serve a copy of your
answer on the Plaintiffs' Attorneys within twenty
days after the service of this summons, exclusive
of the day of service; and in case of your failure
to appear or answer, judgment will be taken against
you by default for the relief demanded in the com-
plaint.

15

Dated, February 2, 1921.

BALDWIN & HUTCHINS,
Attorneys for Plaintiffs,
Office and Post Office Address,
120 Broadway,
Borough of Manhattan,
City of New York.

16

Complaint.

SUPREME COURT OF THE STATE OF
NEW YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

17

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,

Defendants.

18

The plaintiffs above named by Baldwin & Hutch-
ins, their attorneys, for a complaint in this action
respectfully shew to the Court and allege:

FOR A FIRST CAUSE OF ACTION

FIRST: On information and belief, that at all
the times hereinafter mentioned the defendant The
Waldorf-Astoria Hotel Company was and still is
a corporation organized and existing under and

Complaint.

by virtue of the laws of the State of New York, 19
and that the defendant Dwight P. Robinson &
Company, Incorporated, is a corporation organized
and existing under and by virtue of the laws of
the State of Virginia.

SECOND: That according to the records in the
office of the Clerk of the County of Suffolk, New
York, Westinghouse, Church, Kerr & Company ob-
tained a judgment against the defendant Nikola
Tesla for the sum of \$23,544.74, which was duly
docketed in said Clerk's office on the 23rd day of
March, 1912, and on information and belief, that 20
by successive mergers and reorganizations the de-
fendant Dwight P. Robinson & Company, Incor-
porated, acquired the assets of the said Westing-
house, Church, Kerr & Company, and thereby be-
came and now is the owner of the said judgment.

THIRD: That according to the records in the
office of the Clerk of the County of Suffolk, New
York, John C. Wait as receiver of Wait and Foster
obtained a judgment against Nikola Tesla in the
sum of \$3070, which judgment was duly docketed
in the said Clerk's office on the 3rd day of July,
1915, and on information and belief, that the said 21
John C. Wait as such receiver duly assigned the
said judgment to George H. D. Foster, who is now
the owner thereof, and that the said John C. Wait
has been duly discharged as such receiver, although
neither the assignment of the said judgment nor
the record of such discharge has been filed in the
office of the Clerk of the County of Suffolk.

FOURTH: That the defendant Nikola Tesla for
the purpose of securing the payment to one George
C. Boldt of the sum of seven thousand two hun-

Complaint.

- 22 dred seventy and 35/100 dollars and interest thereon, on the 27th day of April, 1904, duly executed, acknowledged and delivered to the said George C. Boldt his certain bond bearing date on that day, sealed with his seal, whereby he bound himself, his heirs, executors and administrators in the penal sum of fourteen thousand five hundred forty and 70/100 dollars, on condition that the same should be void if the said Nikola Tesla, his heirs, executors or administrators should pay or cause to be paid to the above named George C. Boldt, his executors, administrators or assigns, the just and full sum of seven thousand two hundred
- 23 seventy and 35/100 dollars sixty days after the date of the said bond with interest thereon from the said date at the rate of six per centum per annum until the said principal sum should be fully paid.

FIFTH: That as collateral security for the payment of the said indebtedness, the said Nikola Tesla on the same day on which the said bond was executed, duly executed, acknowledged and delivered to the said George C. Boldt a mortgage, which mortgage was recorded in the office of the Clerk of the County of Suffolk in Liber 274 of

24 Mortgages at page 124 on the 12th day of September, 1911, at 10 o'clock in the forenoon of that day, whereby he granted and released to the said George C. Boldt, his heirs and assigns, the following described premises with the appurtenances:

All that certain tract of land, situate, lying and being in the town of Brookhaven, County of Suffolk and State of New York, beginning at a point formed by the intersection of the southerly line of the North Country Road and the easterly line of a road running south from the North Country Road to farm of Jemima Randall, and commonly

8 7270.35
 Bond 14,540.70
 Issued to Boldt

mortgage

Land at Rocky Point

Complaint.

called the Jemima Randall Road; running thence 25
easterly along the southerly line of the North
Country Road to its intersection with the Long
Island Railroad; and thence along the southerly
line of the Long Island Railroad, in all, a distance
from the point of beginning of twenty-two hun-
dred and fifty (2250) feet; thence southerly, or
nearly so, in a straight line to the northwest cor-
ner of land late of George E. Hegeman, and now
of James S. Warden, trustee, and along the west-
erly line of said land late of George E. Hegeman,
which runs south three degrees fifty-two minutes
west, in all a distance from the southerly side of
the said Long Island Railroad, of four thousand 26
(4000) feet; thence westerly in a line parallel with
the northerly line of said land, late of George E.
Hegeman, to the easterly line of the said Jemima
Randall Road, and thence northwesterly along the
easterly side of the said Jemima Randall Road to
the point or place of beginning, containing in all
two hundred acres more or less.

SIXTH: That at the time of recording the said
mortgage the said George C. Boldt paid the mort-
gage tax required by law.

SEVENTH: That the said mortgage contains the
same conditions as the said bond with the further
condition that if the said mortgagor, his heirs,
executors, administrators or assigns should not
pay the moneys thereby secured according to the
terms thereof, or if default should be made in the
payment of the principal or interest at the times
when the same became due as aforesaid, then the
said George C. Boldt, his legal representatives or
assigns, were empowered to sell the said mort-
gaged premises in due form of law, and out of the 27

Complaint.

28 moneys arising from such sale to pay the sum of money and interest in and by said bond and mortgage secured to be paid, together with the costs and expenses of the proceedings thereupon, the surplus, if any there should be, to be returned to the said mortgagor, his heirs, executors, administrators or assigns.

29 EIGHTH: That it was further expressly agreed in and by the said bond and mortgage that the whole of the said principal sum should become due and owing at the option of the said George C. Boldt, his legal representatives or assigns, after default in the payment of any instalment of principal or interest, or after default in the payment of any tax or assessment for 60 days after notice and demand.

30 NINTH: That it was further expressly agreed in and by the said bond and mortgage that the said George C. Boldt, his legal representatives or assigns, should also be at liberty immediately after any such default or any default in the payment of any amount due under the said bond, upon a complaint filed or any other proper legal proceeding commenced for the foreclosure of the mortgage accompanying the said bond, to apply for and be entitled as a matter of right and without regard to the value of the mortgaged premises as security for the amounts due on the said bond and mortgage, or the solvency of any person or persons liable for the payment of such amounts, to the appointment by any competent court or tribunal of a receiver of the rents and profits of the premises described in said mortgage, with power to lease the said premises or such part thereof as might not then be under lease, and with such other powers

appointment of
receiver

Complaint.

as might be deemed necessary, who after deduct- 31
ing all proper charges and expenses attending the
execution of the said trust as receiver, should apply
the residue of the said rents and profits to the pay-
ment and satisfaction of the amount remaining due
on the said mortgage, or to any deficiency which
might exist after applying the proceeds of the sale
of the said premises to the payment of the amounts
so remaining due, including interest and costs and
expenses of the foreclosure and sale.

TENTH: That thereafter the said George C.
Boldt died leaving a last Will and Testament
which was duly admitted to probate by a Surro-
gate of the County of New York on the 13th day
of December, 1916, under the provisions of which
Clover Boldt Miles and George C. Boldt, Jr., were
named as executors thereof, who have duly quali-
fied as such executors and are still acting in that
capacity and thereby became and now are the own-
ers and holders of the said bond and mortgage.

ELEVENTH: That no part of the principal or
interest secured to be paid by the said bond and
mortgage has been paid.

TWELFTH: That there is now due and payable
to the plaintiffs on account of the said bond and
mortgage the sum of seven thousand two hundred
seventy and 35/100 dollars with interest thereon
from the 27th day of April, 1904, at the rate of
six per centum per annum.

THIRTEENTH: That no other action has been
brought and no proceedings have been had at law
or otherwise for the recovery of the said sum
secured by the said bond and mortgage or any
part thereof.

Bolt died testate -
32 will proved Dec. 13-1916 -
Clover Bolt Miles &
Geo. C. Bolt, Jr.

no payment made

33

* 7270.35 due

no other action

Complaint.

34 FOURTEENTH: That the defendants herein and each of them have or claim to have some interest in or lien upon the said mortgaged premises or some part thereof, which interest or lien, if any, accrued subsequently to the lien of the said mortgage.

FOR A SECOND CAUSE OF ACTION

35 FIRST: The plaintiffs repeat and re-allege each and every allegation contained in paragraphs "FIRST," "SECOND" and "THIRD" of the First Cause of Action as if the allegations therein contained were herein set forth at length.

36 SECOND: That the defendant Nikola Tesla for the purpose of securing the payment to The Waldorf-Astoria Hotel Company of the sum of five thousand three hundred seventy-nine and 82/100 dollars and interest thereon, on the 7th day of May, 1908, duly executed, acknowledged and delivered to the said The Waldorf-Astoria Hotel Company his certain bond sealed with his seal and bearing date on the 5th day of May, 1908, whereby he bound himself, his heirs, executors and administrators in the penal sum of ten thousand seven hundred fifty-nine and 64/100 dollars, on condition that the same should be void if the said Nikola Tesla, his heirs, executors or administrators should pay or cause to be paid to the said The Waldorf-Astoria Hotel Company, its successors or assigns, the just and full sum of five thousand three hundred seventy-nine and 82/100 dollars two months after the date thereof with interest thereon at the rate of six per centum per annum to be paid until the said principal sum should be fully paid.

Bond - \$5379.82
Tesla to
Waldorf Astoria Hotel Co.
May 5, 1908

Complaint.

THIRD: That as collateral security for the pay- 37
 ment of the said indebtedness the said Nikola
 Tesla, unmarried, on the same day on which the
 said bond was executed duly executed, acknowl-
 edged and delivered to the said The Waldorf-
 Astoria Hotel Company a mortgage, which mort-
 gage was recorded in the office of the Clerk of the
 County of Suffolk in Liber 374 of Mortgages at
 page 126 on the 12th day of September, 1911, at
 10 o'clock in the forenoon of that day, whereby he
 granted and released to the said The Waldorf-
 Astoria Hotel Company, its successors and assigns,
 the following described premises with the appur-
 tenances:

All that certain tract of land, situate, lying and
 being in the town of Brookhaven, County of Suf-
 folk and State of New York, beginning at a point
 formed by the intersection of the southerly line of
 the North Country Road and the easterly line of
 a road running south from the North Country
 Road to farm of Jemima Randall, and commonly
 called the Jemima Randall Road; running thence
 easterly along the southerly line of the North
 Country Road to its intersection with the Long
 Island Railroad; and thence along the southerly 39
 line of the Long Island Railroad, in all a distance
 from the point of beginning of twenty-two hun-
 dred and fifty (2250) feet; thence southerly, or
 nearly so, in a straight line to the northwest cor-
 ner of land late of George E. Hegeman, and now
 of James S. Warden, trustee, and along the west-
 erly line of said land late of George E. Hegeman,
 which runs south three degrees fifty-two minutes
 west, in all, a distance from the southerly side of
 the said Long Island Railroad, of four thousand
 (4000) feet; thence westerly in a line parallel with
 the northerly line of said land late of George E.

Mortgage
 Tesla

to
 Waldorf Astoria Hotel Compa

38
 Land at Rocky Point

Complaint.

- 40 Hegeman, to the easterly line of the said Jemima Randall Road, and thence northwesterly along the easterly side of the said Jemima Randall Road to the point or place of beginning, containing in all two hundred acres more or less.

*Subject to 2
mortgages*

Subject and subordinate to two certain mortgages now a lien on said premises, one for \$7,270.35 and interest, dated April 27, 1904, and one for \$3,478.81 and interest, dated October 28, 1905.

FOURTH: That at the time of recording the said mortgage the said The Waldorf-Astoria Hotel Company paid the mortgage tax required by law.

41

FIFTH: That the said mortgage contains the same conditions as the said bond with the further condition that if the said mortgagor, his legal representatives, or assigns, should not pay the moneys thereby secured according to the terms thereof, or if default should be made in the payment of the principal or interest at the times when the same became due as aforesaid, then the said The Waldorf-Astoria Hotel Company, its successors or assigns, were empowered to sell the said mortgaged premises in due form of law, and out
42 of the moneys arising from such sale to pay the sum of money and interest in and by said bond and mortgage secured to be paid, together with the costs and expenses of the proceedings thereupon, the surplus, if any there should be, to be returned to the said mortgagor, his heirs, executors, administrators or assigns.

SIXTH: That it was further expressly agreed in and by the said bond and mortgage that the whole of the said principal sum should become due and owing at the option of the said The Waldorf-

Complaint.

Astoria Hotel Company, its successors or assigns, 43
 after default in the payment of any instalment of
 principal or interest, or after default in the pay-
 ment of any tax or assessment for 30 days after
 notice and demand.

SEVENTH: That it was further expressly agreed
 in and by the said bond and mortgage that the said
 The Waldorf-Astoria Hotel Company, its succes-
 sors or assigns, should also be at liberty imme-
 diately after any such default or any default in
 the payment of any amount due under the said
 bond, upon a complaint filed or any other proper 44
 legal proceeding commenced for the foreclosure of
 the mortgage accompanying the said bond, to apply
 for and be entitled as a matter of right and with-
 out regard to the value of the mortgaged premises
 as security for the amounts due on the said bond
 and mortgage, or the solvency of any person or
 persons liable for the payment of such amounts,
 to the appointment by any competent court or
 tribunal of a receiver of the rents and profits of
 the premises described in said mortgage, with
 power to lease the said premises or such part
 thereof as might not then be under lease, and with
 such other powers as might be deemed necessary. 45
 who after deducting all proper charges and ex-
 penses attending the execution of the said trust as
 receiver, should apply the residue of the said rents
 and profits to the payment and satisfaction of the
 amount remaining due on the said mortgage, or
 to any deficiency which might exist after apply-
 ing the proceeds of the sale of the said premises
 to the payment of the amounts so remaining due,
 including interest and costs and expenses of the
 foreclosure and sale.

*appointment of receiver
 of rents & profits*

mplaint.

46 EIGHTH: That it was further expressly agreed in and by the said mortgage that should any default be made in the payment of the interest on said prior mortgages and should such interest remain unpaid and in arrears for the space of ten days, or should any suit be commenced to foreclose said prior mortgages, then the amount secured by said mortgage and accompanying bond should become due and payable at any time thereafter at the option of the owner or holder of the said mortgage. That it was further expressly agreed that should any default be made in the payment of the interest on said prior mortgages, 47 the holder of the said mortgage might pay such interest, and the amount so paid with legal interest thereon from the time of such payment might be added to the indebtedness secured by said mortgage and accompanying bond and should be deemed to be secured by the said bond and mortgage and might be collected thereunder.

48 NINTH: That thereafter by an instrument in writing bearing date the 17th day of November, 1920, and duly recorded in the office of the Clerk of the County of Suffolk in Liber 477 of Mortgages at page 135 on the 20th day of December, 1920, at 10 o'clock in the forenoon of that day, the said The Waldorf-Astoria Hotel Company duly assigned, transferred and set over unto Clover Boldt Miles and George C. Boldt, Jr., as Executors of the estate of George C. Boldt, deceased, the plaintiffs herein, the said bond and mortgage, whereby the said plaintiffs became and now are the owners and holders thereof.

TENTH: That no part of the principal or interest secured to be paid by the said bond and mortgage has been paid.

*Waldorf Astoria Hotel Co
assigned mort. to these
plaintiffs*

no payment

ELEVENTH: that there is now due and payable to the plaintiffs on account of the said bond and mortgage the sum of five thousand three hundred seventy-nine and 82/100 dollars with interest thereon from the 5th day of May, 1908, at the rate of six per centum per annum.

49

due \$ 5379.82

TWELFTH: That no other action has been brought and no proceedings have been had at law or otherwise for the recovery of the said sum secured by the said bond and mortgage or any part thereof.

THIRTEENTH: That the defendants and each of them have or claim to have some interest in or lien upon the said mortgaged premises or some part thereof, which interest or lien, if any, accrued subsequently to the lien of the said mortgage; except that the said mortgage is subordinate in lien to the lien of the mortgage affecting the above described premises given by Nikola Tesla to the defendant Thomas G. Shearman to secure the payment of the sum of \$3,478.81, bearing date October 28, 1905, and recorded in the office of the Clerk of the County of Suffolk in Liber 421 of Mortgages at page 161 on the 24th day of February, 1915.

50

51

WHEREFORE, plaintiffs demand judgment that the defendants herein and all persons claiming under them or any of them subsequent to the commencement of this action, and all persons whose interest, conveyance or encumbrance is subsequent, or is subsequently recorded, may be barred and foreclosed of all right, title, interest, lien or equity of redemption in the said mortgaged premises.

That the said mortgaged premises or so much thereof as may be sufficient to raise the amount due to the plaintiffs for principal and interest, the expenses of the sale and the costs of this action, and

Complaint.

52 which may be sold separately without material injury to the parties interested, may be decreed to be sold according to law.

That out of the moneys arising from the sale thereof the plaintiffs may be paid the amount due on the said bond and mortgage described in the First Cause of Action herein with interest to the time of such payment, with the expenses of the sale and the costs and expenses of this action so far as the amount of such moneys properly applicable thereto will pay the same; that after making such payments as aforesaid, the balance remaining from said proceeds of sale, if any, shall be applied, 53 first, to the payment of the amount due on the bond and mortgage affecting the said premises given by Nikola Tesla to the defendant Thomas G. Shearman to secure the payment of the sum of \$3,478.81 bearing date October 28, 1905, and recorded in the office of the Clerk of the County of Suffolk in Liber 421 of Mortgages at page 161 on the 24th day of February, 1915, with interest to the time of such payment; and second, to the payment to the plaintiffs of the amount due on the bond and mortgage described in the Second Cause of Action herein, with interest to the time of such payment.

That the defendant Nikola Tesla may be charged with any deficiency which may remain after applying all of such moneys so applicable thereto. 54

That a receiver of the rents and profits of the said premises may be appointed by order of the Court to apply the same toward the payment of the plaintiffs' demand, and that the plaintiffs may have such other or further relief, or both, in the premises as shall be just and equitable, together with the costs and disbursements of this action.

BALDWIN & HUTCHINS,
Attorneys for Plaintiffs,
120 Broadway,
Borough of Manhattan,
City of New York.

(Verified)

Answer of Defendant Nikola Tesla. 55

SUPREME COURT OF THE STATE OF NEW
YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

Answer.

56

57

The defendant Nikola Tesla, for his answer to the complaint of the above named plaintiff, respectfully shows to this Court:—

I. He denies the allegations as set forth and contained in the "Eleventh" and "Twelfth" paragraphs of the first cause of action of said complaint.

II. He denies the allegations as set forth and contained in the "Tenth" and "Eleventh" paragraphs of the second cause of action of said complaint.

Answer of Defendant Nikola Tesla.

58

AS A FURTHER ANSWER AND DEFENSE TO HIS SAID COMPLAINT, THIS DEFENDANT ALLEGES ON INFORMATION AND BELIEF:

III. That at the time of the making of the said bonds and mortgages as described in the complaint, there was erected upon the said mortgaged premises, certain buildings of the value of at least \$150,000 and which said buildings contained personal property of the value of more than \$50,000.

59

IV. That on or about the 29th day of March, 1915, the plaintiffs testator George C. Boldt and the defendant Waldorf-Astoria Hotel Co. the plaintiffs, their and each of their agents, servants and attorneys, requested and demanded further security for the moneys due upon said bonds and mortgages so held by them and did threaten to place this defendant in bankruptcy unless this defendant executed a deed of the said premises and the buildings thereon and a Bill of Sale of the personal property therein and that if the same were executed, the said George C. Boldt and the Waldorf-Astoria Hotel Co. would only hold the same as additional and further collateral security to the mortgages already held by them and in their possession, and the said deed and said chattel mortgage were given as mortgages only.

60

V. That this defendant relying upon said statements and representations, executed the said deed and bill of sale.

VI. That thereafter and in or about the month of July 1917, the said George C. Boldt, the plaintiff's testator and the defendant, Waldorf-Astoria Hotel Co. plaintiff's assignor, entered into possession of the said premises as mortgagees and continued in possession thereof, as have the plaintiffs,

Answer of Defendant Nikola Tesla.

since the death of said George C. Boldt, and received all the income rents, benefits and profits of and from the said premises and retained the same and did wilfully and intentionally sell or destroy or dispose of, or permitted to be destroyed and sold and disposed of, the said buildings and the said personal property upon the said premises and in said building without the consent or knowledge of this defendant. 61

VII. That the said buildings and personal property were of the value of more than \$200,000.

VIII. That at the time of the execution and delivery of the said deed and the Bill of Sale hereinbefore mentioned, the same were executed and delivered as a mortgage upon said real estate and the buildings and a chattel mortgage of personal property respectively. 62 c

IX. That the buildings and property so sold or destroyed amount to more than the claims as set forth in the complaint and this defendant has not received any monies from plaintiffs, or said George C. Boldt or Waldorf-Astoria Hotel Co. from said income rents and profits or the sale, destruction or disposition of said property and plaintiffs have retained the same and applied it to their use, although the same, as this defendant is informed and believes, amounts to more than is due on said mortgages, and the plaintiffs have been duly paid thereby and there is no monies due from this defendant to the plaintiffs. 63

X. That at the time of the assignment of the mortgage by the defendant Waldorf-Astoria Hotel Company to plaintiff, as set forth in Paragraph "Ninth" of the second cause of action of plaintiff's complaint, the plaintiffs had full knowledge

Answer of Defendant Nikola Tesla.

64 of the acts and doing of their said assignor and took said assignment subject thereto.

AS A THIRD AND SEPARATE DEFENSE AND AS AND FOR A SET-OFF AND COUNTERCLAIM AGAINST THE PLAINTIFF, THIS DEFENDANT ALLEGES ON INFORMATION AND BELIEF:

XI. He reiterates and re-alleges the allegations contained in paragraphs numbered "I" to "X" both inclusive with the same force and effect as if the same were here particularly and at large set forth.

65 XII. That the buildings and personal property so removed or permitted to be removed and destroyed were of the value of \$200,000, which sum this defendant has been damaged, by reason of the acts hereinbefore set forth.

WHEREFORE this defendant demands judgment against the plaintiff declaring that the deed and bill of sale given by him of the said premises and the personal property be declared mortgages; that the plaintiffs account for all moneys or property received by them, or received by George C. Boldt or the Waldorf-Astoria Hotel Company as income, rents, issues and profits and from the sale of the
66 personal property and the buildings on the mortgaged premises; that they pay to this defendant the value of the property sold, destroyed or disposed of, and for such other and further relief as to the Court may seem just and proper besides the costs and disbursements of this action.

WILLIAM RASQUIN, JR.

Attorney for Defendant,

Nikola Tesla,

Office & P. O. Address,

305 Broadway,

Borough of Manhattan,

City of New York.

(Verified.)

**Answer of Defendant Thomas G.
Shearman.**

67

**SUPREME COURT OF THE STATE OF
NEW YORK,**

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR. as Executors of the Last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE
WALDORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, *et al.*,
Defendants.

Answer

68

The defendant Thomas G. Shearman above named by Willard A. Mitchell, his attorney, for an answer to the complaint of the above named plaintiffs in this action, not in any way, however, controverting any of the allegations of the said complaint but merely for the purpose of setting forth the interest which the said defendant Thomas G. Shearman has in the premises, respectfully shows to the Court and alleges:

FIRST: That the defendant Nikola Tesla, for the purpose of securing the payment to the said defendant Thomas G. Shearman of the sum of three thousand four hundred seventy eight and 81/100 dollars and interest thereon, on the 28th day of October, 1905, duly executed, acknowledged and delivered to the said Thomas G. Shearman his certain bond, bearing date on that day, sealed with

\$3478.61

Answer of Defendant Thomas G. Shearman.

- 70 his seal, whereby he bound himself in the sum of three thousand four hundred seventy eight and 81/100 dollars upon condition that the same should be void if the said Nikola Tesla should pay or cause to be paid to the above named Thomas G. Shearman his executors, administrators or assigns, the just and full sum of three thousand four hundred seventy eight and 81/100 dollars on the 28th day of December 1906 with interest thereon to be computed from the 28th day of October 1905 at the rate of five per centum per annum and to be paid on the 28th day of December next ensuing and semi annually thereafter until the said principal sum
71 should be fully paid.

SECOND: That as collateral security for the payment of the said indebtedness, the said Nikola Tesla, unmarried, on the same day on which the said bond was executed, duly executed, acknowledged and delivered to the said Thomas G. Shearman a mortgage which mortgage was recorded in the office of the Clerk of the County of Suffolk in Liber 421 of Mortgages at page 161 on the 24th day of February, 1915 at 10 o'clock in the forenoon of that day, whereby he granted and released to the
72 said Thomas G. Shearman, his heirs and assigns, the following described premises with the appurtenances:

All that certain tract of land, situate, lying and being in the town of Brookhaven, County of Suffolk and State of New York beginning at a point formed by the intersection of the southerly line of the North Country Road and the easterly line of a road running south from the North Country Road to farm of Jemima Randall, and commonly called the Jemima Randall Road; running thence easterly

Answer of Defendant Thomas G. Shearman.

along the southerly line of North Country Road 73
to its intersection with the Long Island Railroad;
and thence along the southerly line of the Long
Island Railroad, in all, a distance from the point
of beginning of twenty-two hundred and fifty
(2250) feet; thence southerly, or nearly so, in a
straight line to the northwest corner of land late of
George E. Hegeman, and now of James S. Warden,
Trustee, and along the westerly line of said land
late of George E. Hegeman, which runs south three
degrees fifty two minutes west, in all a distance
from the southerly side of the said Long Island
Railroad, of four thousand (4,000) feet; thence 74
westerly in a line parallel with the northerly line
of said land, late of George E. Hegeman, to the
easterly line of the said Jemima Randall Road,
and thence northwesterly along the easterly side
of the said Jemima Randall Road to the point or
place of beginning, containing in all two hundred
acres more or less.

THIRD: That at the time of recording the said
mortgage the said Thomas G. Shearman paid the
mortgage tax required by law.

FOURTH: That the said mortgage contains the 75
same conditions as the said bond, with the further
conditions that if the said mortgagor, his heirs,
executors, administrators or assigns should not pay
the moneys thereby secured according to the terms
thereof, or if default should be made in the pay-
ment of the principal or interest at the times when
the same became due as aforesaid, then the said
Thomas G. Shearman, his legal representatives or
assigns, were empowered to sell the said mortgaged
premises in due form of law, and out of the moneys

Answer of Defendant Thomas G. Shearman.

- 76 arising from such sale to pay the sum of money and interest in and by said bond and mortgage secured to be paid, together with the costs and expenses of the proceedings thereupon, the surplus, if any there should be, to be returned to the said mortgagor, his heirs, executors, administrators or assigns.

FIFTH: That it was further expressly agreed in and by the said bond and mortgage that the whole of the said principal sum should become due and owing at the option of the said Thomas G. Shearman, his legal representatives or assigns, after default in the payment of interest or in the payment
77 of any tax or assessment for thirty days.

SIXTH: That no part of the principal or interest secured to be paid by the said bond and mortgage has been paid.

SEVENTH: That there is now due and payable on account of the said bond and mortgage the sum of three thousand four hundred seventy eight and 81/100 dollars with interest thereon from the 28th day of October, 1905, at the rate of five per centum per annum.

- 78 EIGHTH: That no action has been brought and no proceedings have been had at law or otherwise for the recovery of the said sum secured by the said bond and mortgage or any part thereof.

WHEREFORE, the said defendant Thomas G. Shearman joins with the plaintiffs in the prayer that the said mortgaged premises may be decreed to be sold according to law.

That out of the proceeds of the sale of the premises, after the payment of the amount found to be

Answer of Defendant Thomas G. Shearman.

due to the plaintiffs herein under the First Cause 79
of Action set forth in the complaint herein, with
costs and expenses of the action, the defendant
Thomas G. Shearman shall be paid the amount due
on the bond and mortgage above set forth, with
interest thereon to the time of such payment, so
far as the amount of such moneys properly applica-
ble thereto will pay the same.

That the defendant Nikola Tesla may be charged
with any deficiency which may remain after apply-
ing all of such moneys so applicable thereto.

WILLARD A. MITCHELL,
Attorney for Defendant,
Thomas G. Shearman, 80
141 Broadway,
Borough of Manhattan,
New York City.

(Verified.)

82

Reply.SUPREME COURT OF THE STATE OF NEW
YORK,

COUNTY OF SUFFOLK.

83

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

84

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

The plaintiffs for a reply to the counterclaim set
forth in the answer of the defendant Nikola Tesla,

DENY each and every allegation in said counter-
claim contained.

Reply.

FOR A FURTHER REPLY TO THE MATTER SET FORTH 85
IN THE SAID ANSWER,

The plaintiffs respectfully show to the Court and
allege:

FIRST: That the deed and bill of sale in said
answer referred to were absolute conveyances and
not mortgages, and were executed and delivered in
accordance with the terms and conditions in a
certain letter, dated March 29, 1915, directed to
the defendant Nikola Tesla, a copy whereof is
hereto annexed and marked Exhibit A, and not
otherwise.

86
SECOND: That no one of the payments specified
in said letter was made by said defendant prior to
July 15, 1915, as therein specified or at any other
time.

WHEREFORE, plaintiffs demand judgment for the
relief asked for in the complaint.

BALDWIN & HUTCHINS,
Attorneys for Plaintiffs,
120 Broadway,
Borough of Manhattan,
City of New York.

(Verified.)

87

Reply—Exhibit A.

88

Exhibit A.

"MARCH 29, 1915.

"NIKOLA TESLA, Esq.,
Waldorf-Astoria,
New York City.

DEAR SIR:

89 I acknowledge receipt today from you of deed of your property in the Town of Brookhaven, and also bill of sale of the chattels situate in the brick factory on such property, and I hereby confirm our agreement respecting same, to wit, neither this deed nor this bill of sale will be placed of record before July 15, -1915.

90 It is furthermore understood that if prior to said date, you should pay in full your then indebtedness to the Waldorf-Astoria Hotel Company, (which indebtedness now aggregates something over \$20,000.), and should also pay off the mortgage on said premises, amounting to \$3,478.81, with accrued interest thereon, which mortgage stands in the name of Thomas G. Shearman, then and in such event, this deed and bill of sale will be returned to you, together with proper satisfaction pieces of the following two mortgages:

- (a) Mortgage to George C. Boldt for \$7270.35, dated April 27, 1904, and
- (b) Mortgage to the Waldorf-Astoria Hotel Company for \$5,379.82, dated May 5, 1908, together with
- (c) Satisfaction of any chattel mortgages which my client may hold against the chattels located on such premises.

Reply—Exhibit A.

It being further understood that should you fail to make such payment to the Hotel Company and to the holder of said mortgage for \$3478.81, on or before said July 15, 1915, then this letter shall become null and void, and the title to said real estate and chattels shall vest absolutely in the grantees named in said deed and bill of sale. 91

Yours very truly,

FSH/D

F. S. HUTCHINS,

Attorney for George C. Boldt and
Waldorf-Astoria Hotel Company.

92

93

Order of Reference.

At a Special Term of the Supreme Court
of the State of New York, held at the
County Court House, at Riverhead,
Suffolk Co. N. Y. on the 4th day of
November, 1921.

Present:

HON. J. ADDISON YOUNG,
Justice.

95 CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

96 NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

This cause having been regularly reached for
trial at a Term of this Court held at the County
Court House in the village and town of Riverhead
in the County of Suffolk and State of New York on
the 26th day of October, 1921, and having been
marked for a reference, and Messrs. Baldwin &

Order of Reference.

Hutchins, attorneys for the plaintiffs, having 97
agreed with William Rasquin, Jr., Esq., attorney
for the defendant, Nikola Tesla, ~~he being the only~~
defendant who has raised an issue in the action,
upon the names of two members of the Suffolk
County Bar, either of whom will be satisfactory as
referee herein, and having submitted said two
names to the Court for the Court's selection and
approval;

Now, on motion of Baldwin & Hutchins, attor-
neys for the plaintiffs,

IT IS ORDERED, that all the issues in this action 98
be referred to Rowland Miles, Esq., counselor at
law, of the County of Suffolk and State of New
York, to hear and determine.

Enter

J. A. YOUNG
J. S. C.

100

Decision.SUPREME COURT OF THE STATE OF
NEW YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

101

AGAINST

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successors to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,

102

Defendants.

The issues of law and fact in this action having been referred to Rowland Miles, Esq., Referee, to hear and determine, by an order of this Court made and entered in the above entitled action and bearing date on the 4th day of November, 1921, and the said Referee having duly taken and filed the oath required by law, and the allegations and evidence of the parties having been heard, and due delibera-

Decision.

tion having been had, the Referee now decides, and 103
states separately, the facts found and the conclusions of law, as follows:

FINDINGS OF FACT.

FIRST: That the defendant The Waldorf-Astoria Hotel Company was and is a corporation organized and existing under and by virtue of the laws of State of New York, and that the defendant Dwight P. Robinson & Company, Incorporated, is a corporation organized and existing under and by virtue of the laws of the State of Virginia.

SECOND: That Westinghouse, Church, Kerr & 104
Company obtained a judgment against the defendant Nikola Tesla for the sum of \$23,544.74, which was duly docketed in the Suffolk County Clerk's office on the 23rd day of March, 1912, and that by successive mergers and reorganizations the defendant Dwight P. Robinson & Company, Incorporated, acquired the assets of the said Westinghouse, Church, Kerr & Company, and thereby became and now is the owner of the said judgment.

THIRD: That John C. Wait as receiver of Wait and Foster obtained a judgment against Nikola 105
Tesla in the sum of \$3070, which judgment was duly docketed in the said Clerk's office on the 3rd day of July, 1915, and that the said John C. Wait as such receiver duly assigned the said judgment to George H. D. Foster, who is now the owner thereof, and that the said John C. Wait has been duly discharged as such receiver.

FOURTH: That the defendant Nikola Tesla for the purpose of securing the payment to one George C. Boldt of the sum of seven thousand two hundred

Decision.

106 seventy and 35/100 dollars and interest thereon, on
 the 27th day of April, 1904, duly executed, acknowl-
 edged and delivered to the said George C. Boldt his
 certain bond bearing date on that day, sealed with
 his seal, whereby he bound himself, his heirs, execu-
 tors and administrators in the penal sum of four-
 teen thousand five hundred forty and 70/100 dol-
 lars, on condition that the same should be void if
 the said Nikola Tesla, his heirs, executors or ad-
 ministrators should pay or cause to be paid to the
 above named George C. Boldt, his executors, admin-
 istrators or assigns, the just and full sum of seven
 107 thousand two hundred seventy and 35/100 dollars
 sixty days after the date of the said bond, with in-
 terest thereon from the said date at the rate of six
 per centum per annum until the said principal sum
 should be fully paid.

FIFTH: That as collateral security for the pay-
 ment of the said indebtedness, the said Nikola Tesla
 on the same day on which the said bond was exe-
 cuted, duly executed, acknowledged and delivered
 to the said George C. Boldt a mortgage, which mort-
 gage was recorded in the office of the Clerk of the
 County of Suffolk in Liber 374 of Mortgages at page
 108 124 on the 12th day of September, 1911, at 10
 o'clock in the forenoon of that day, whereby he
 granted and released to the said George C. Boldt,
 his heirs and assigns, the following described
 premises with the appurtenances:

All that certain tract of land, situate, lying and
 being in the town of Brookhaven, County of Suffolk
 and State of New York, beginning at a point formed
 by the intersection of the southerly line of the
 North Country Road and the easterly line of a road
 running south from the North Country Road to
 farm of Jemima Randall, and commonly called the

Decision.

Jemima Randall Road; running thence easterly 109
 along the southerly line of the North Country Road
 to its intersection with the Long Island Railroad;
 and thence along the southerly line of the Long
 Island Railroad, in all, a distance from the point of
 beginning of twenty two hundred and fifty (2250)
 feet; thence southerly, or nearly so, in a straight
 line to the northwest corner of land late of George
 E. Hegeman, and now of James S. Warden, trustee,
 and along the westerly line of said land late of
 George E. Hegeman, which runs south three degrees
 fifty two minutes west, in all a distance from
 the southerly side of the said Long Island Railroad, 110
 of four thousand (4000) feet; thence westerly in a
 line parallel with the northerly line of said land,
 late of George E. Hegeman, to the easterly line of
 the said Jemima Randall Road, and thence north-
 westerly along the easterly side of the said Jemima
 Randall Road to the point or place of beginning,
 containing in all two hundred acres more or less.

SIXTH: That at the time of recording the said
 mortgage the said George C. Boldt paid the mort-
 gage tax required by law.

SEVENTH: That the said mortgage contains the 111
 same conditions as the said bond with the further
 condition that if the said mortgagor, his heirs, ex-
 ecutors, administrators or assigns, should not pay
 the moneys thereby secured according to the terms
 thereof, or if default should be made in the payment
 of the principal or interest at the times when the
 same became due as aforesaid, then the said George
 C. Boldt, his legal representatives or assigns, were
 empowered to sell the said mortgaged premises in
 due form of law, and out of the moneys arising from
 such sale to pay the sum of money and interest in

Decision.

112 and by said bond and mortgage secured to be paid, together with the costs and expenses of the proceedings thereupon, the surplus, if any there should be, to be returned to the said mortgagor, his heirs, executors, administrators or assigns.

113 EIGHTH: That it was further expressly agreed in and by the said bond and mortgage that the whole of the said principal sum should become due and owing at the option of the said George C. Boldt, his legal representatives or assigns, after default in the payment of any instalment of principal or interest, or after default in the payment of any tax or assessment for 60 days after notice and demand.

114 NINTH: That it was further expressly agreed in and by the said bond and mortgage that the said George C. Boldt, his legal representatives or assigns, should also be at liberty immediately after any such default or any default in the payment of any amount due under the said bond, upon a complaint filed, or any other proper legal proceeding commenced for the foreclosure of the mortgage accompanying the said bond, to apply for and be entitled as a matter of right and without regard to the value of the mortgaged premises as security for the amounts due on the said bond and mortgage, or the solvency of any person or persons liable for the payment of such amounts, to the appointment by any competent court or tribunal of a receiver of the rents and profits of the premises described in said mortgage, with power to lease the said premises or such part thereof as might not then be under lease, and with such other powers as might be deemed necessary, who, after deducting all proper charges and expenses attending the execution of said trust as receiver, should apply the residue of the said

recr }

Decision.

rents and profits to the payment and satisfaction of 115
the amount remaining due on the said mortgage, or
to any deficiency which might exist after applying
the proceeds of the sale of the said premises to the
payment of the amounts so remaining due, in-
cluding interest and costs and expenses of the
foreclosure and sale.

TENTH: That thereafter the said George C. Boldt 116
died leaving a last Will and Testament, which was
duly admitted to probate by a Surrogate of the
County of New York on the 13th day of December,
1916, under the provisions of which the plaintiffs
Clover Boldt Miles and George C. Boldt, Jr.,
were named as executors thereof; that they have
duly qualified as such executors and are still acting
in that capacity, and thereby became and now are
the owners and holders of the said bond and
mortgage.

ELEVENTH: That no part of the principal or in-
terest secured to be paid by the said bond and
mortgage has been paid.

TWELFTH: That there is now due and payable to
the plaintiffs on account of the said bond and mort-
gage the sum of seven thousand two hundred
seventy and 35/100 dollars, with interest thereon
from the 27th day of April, 1904, at the rate of six
per centum per annum.

THIRTEENTH: That no other action has been
brought and no proceedings have been had at law
or otherwise for the recovery of the said sum se-
cured by the said bond and mortgage or any part
thereof.

Boldt died testate

Ex 1 no payment

Ex 2 117 amt due

no other action

Decision.

118 **FOURTEENTH:** That the defendants herein and each of them have, or claim to have, some interest in or lien upon the said mortgaged premises or some part thereof, which interest or lien, if any, accrued subsequently to the lien of the said mortgage.

2^d cause of action

119 **FIFTEENTH:** That the defendant Nikola Tesla, for the purpose of securing the payment to The Waldorf-Astoria Hotel Company of the sum of five thousand three hundred seventy nine and 82/100 dollars and interest thereon, on the 7th day of May, 1908, duly executed, acknowledged and delivered to the said The Waldorf-Astoria Hotel Company his certain bond, sealed with his seal and bearing date on the 5th day of May, 1908, whereby he bound himself, his heirs, executors and administrators in the penal sum of ten thousand seven hundred fifty nine and 64/100 dollars, on condition that the same should be void if the said Nikola Tesla, his heirs, executors or administrators should pay or cause to be paid to the said The Waldorf-Astoria Hotel Company, its successors or assigns, the just and full sum of five thousand three hundred seventy nine and 82/100 dollars two months after
120 the date thereof with interest thereon at the rate of six per centum per annum to be paid until the said principal sum should be fully paid.

SIXTEENTH: That as collateral security for the payment of the said indebtedness, the said Nikola Tesla, unmarried, on the same day on which the said bond was executed, duly executed, acknowledged and delivered to the said The Waldorf-Astoria Hotel Company a mortgage, which mortgage was recorded in the office of the Clerk of the County of Suffolk in Liber 374 of Mortgages at

Decision.

page 126 on the 12th day of September, 1911, at 121
 10 o'clock in the forenoon of that day, whereby he
 granted and released to the said The Waldorf-
 Astoria Hotel Company, its successors and assigns,
 the following described premises with the appur-
 tenances:

All that certain tract of land, situate, lying and
 being in the town of Brookhaven, County of Suffolk
 and State of New York, beginning at a point
 formed by the intersection of the southerly line of
 the North Country Road and the easterly line of
 a road running south from the North Country
 Road to farm of Jemima Randall, and commonly 122
 called the Jemima Randall Road; running thence
 easterly along the southerly line of the North Coun-
 try Road to its intersection with the Long Island
 Railroad; and thence along the southerly line of
 the Long Island Railroad, in all, a distance from
 the point of beginning of twenty-two hundred and
 fifty (2250) feet; thence southerly, or nearly so, in
 a straight line to the northwest corner of land
 late of George E. Hegeman, and now of James S.
 Warden, trustee, and along the westerly line of
 said land late of George E. Hegeman, which runs
 south three degrees fifty two minutes west, in all, 123
 a distance from the southerly side of the said Long
 Island Railroad, of four thousand (4000) feet;
 thence westerly in a line parallel with the north-
 erly line of said land, late of George E. Hegeman,
 to the easterly line of the said Jemima Randall
 Road; and thence northwesterly along the easterly
 side of the said Jemima Randall Road to the point
 or place of beginning, containing in all two hun-
 dred acres more or less.

Subject and subordinate to two certain mort-
 gages now a lien on said premises, one for \$7,270.35

Decision.

124 and interest, dated April 27, 1904, and one for
\$3,478.81 and interest, dated October 28, 1905.

SEVENTEENTH: That at the time of recording the said mortgage the said The Waldorf-Astoria Hotel Company paid the mortgage tax required by law.

125 EIGHTEENTH: That the said mortgage contains the same conditions as the said bond with the further condition that if the said mortgagor, his legal representatives or assigns, should not pay the moneys thereby secured according to the terms thereof, or if default should be made in the payment of the principal or interest at the times when the same became due as aforesaid, then the said The Waldorf-Astoria Hotel Company, its successors or assigns, were empowered to sell the said mortgaged premises in due form of law, and out of the moneys arising from such sale to pay the sum of money and interest in and by said bond and mortgage secured to be paid, together with the costs and expenses of the proceedings thereupon, the surplus, if any there should be, to be returned to the said mortgagor, his heirs, executors, administrators or assigns.

126 NINETEENTH: That it was further expressly agreed in and by the said bond and mortgage that the whole of the said principal sum should become due and owing at the option of the said The Waldorf-Astoria Hotel Company, its successors or assigns, after default in the payment of any installment of principal or interest, or after default in the payment of any tax or assessment for 30 days after notice and demand.

TWENTIETH: That it was further expressly agreed in and by the said bond and mortgage that the said

Decision.

The Waldorf-Astoria Hotel Company, its successors 127
 or assigns, should also be at liberty immediately
 after any such default or any default in the pay-
 ment of any amount due under the said bond, upon
 a complaint filed or any other proper legal proceed-
 ing commenced for the foreclosure of the mortgage
 accompanying the said bond, to apply for and be
 entitled as a matter of right and without regard
 to the value of the mortgaged premises as security
 for the amounts due on the said bond and mortgage,
 or the solvency of any person or persons liable for
 the payment of such amounts, to the appointment 128
 by any competent court or tribunal of a receiver
 of the rents and profits of the premises described
 in said mortgage, with power to lease the said
 premises or such part thereof as might not then
 be under lease, and with such other powers as might
 be deemed necessary, who, after deducting all
 charges and expenses attending the execution of
 the said trust as receiver, should apply the residue
 of the said rents and profits to the payment and sat-
 isfaction of the amount remaining due on the said
 mortgage, or to any deficiency which might exist
 after applying the proceeds of the sale of the said
 premises to the payment of the amounts so remain-
 ing due, including interest : 1 costs and expenses 129
 of the foreclosure and sale.

TWENTY FIRST: That it was further expressly
 agreed in and by the said mortgage that should
 any default be made in the payment of the interest
 on said prior mortgages and should such interest
 remain unpaid and in arrears for the space of ten
 days, or should any suit be commenced for the fore-
 closure of said prior mortgages, then the amount
 secured by said mortgage and accompanying bond
 should become due and payable at any time there-

Decision.

130 after at the option of the owner or holder of the said mortgage. That it was further expressly agreed that should any default be made in the payment of the interest on said prior mortgages, the holder of the said mortgage might pay such interest, and the amount so paid with legal interest thereon from the time of such payment might be added to the indebtedness secured by said mortgage and accompanying bond and should be deemed to be secured by the said bond and mortgage and might be collected thereunder.

*Loa. H Co assigned
to plaintiffs*

131

TWENTY SECOND: That thereafter by an instrument in writing bearing date the 17th day of November, 1920, and duly recorded in the office of the Clerk of the County of Suffolk in Liber 477 of Mortgages at page 135 on the 20th day of December, 1920, at 10 o'clock in the forenoon of that day, the said The Waldorf-Astoria Hotel Company duly assigned, transferred and set over unto Clover Boldt Miles and George C. Boldt, Jr., as executors of the estate of George C. Boldt, deceased, the plaintiffs herein, the said bond and mortgage, whereby the said plaintiffs became and now are the owners and holders thereof.

132

Ex 7

TWENTY THIRD: That no part of the principal or interest secured to be paid by the said bond and mortgage has been paid.

Ex 4

TWENTY FOURTH: That there is now due and payable to the plaintiffs on account of the said bond and mortgage the sum of five thousand three hundred seventy nine and 82/100 dollars with interest thereon from the 5th day of May, 1908, at the rate of six per centum per annum.

Decision.

TWENTY FIFTH: That no other action has been brought and no proceedings have been had at law or otherwise for the recovery of the said sum secured by the said bond and mortgage or any part thereof. 133

TWENTY SIXTH: That the defendants and each of them have, or claim to have, some interest in or lien upon the said mortgaged premises or some part thereof, which interest or lien, if any, accrued subsequently to the lien of the said mortgage; except that the said mortgage is subordinate in lien to the lien of the mortgage affecting the above described premises given by Nikola Tesla to the defendant Thomas G. Shearman to secure the payment of the sum of \$3,478.81, bearing date October 28, 1905, and recorded in the office of the Clerk of the County of Suffolk in Liber 421 of Mortgages at page 161 on the 24th day of February, 1915. 134

TWENTY SEVENTH: That the defendant Nikola Tesla, for the purpose of securing the payment to the defendant Thomas G. Shearman of the sum of three thousand four hundred seventy eight and 81/100 dollars and interest thereon, on the 28th day of October, 1905, duly executed, acknowledged and delivered to the said Thomas G. Shearman his certain bond, bearing date on that day, sealed with his seal, whereby he bound himself, in the sum of three thousand four hundred seventy eight and 81/100 dollars upon condition that the same should be void if the said Nikola Tesla should pay or cause to be paid to the above named Thomas G. Shearman, his executors, administrators or assigns, the just and full sum of three thousand four hundred seventy eight and 81/100 dollars on the 28th day of December, 1905, with interest thereon to 135

Ex 5

Ex 6
Shearman mat.

Decision.

136 be computed from the 28th day of October, 1905, at the rate of five per centum per annum and to be paid on the 28th day of December next ensuing and semi annually thereafter until the said principal sum should be fully paid.

827
137 TWENTY EIGHTH: That as collateral security for the payment of the said indebtedness, the said Nikola Tesla, unmarried, on the same day on which the said bond was executed, duly executed, acknowledged and delivered to the said Thomas G. Shearman a mortgage, which mortgage was recorded in the office of the Clerk of the County of Suffolk in Liber 421 of Mortgages at page 161 on the 24th day of February, 1915, at 10 o'clock in the forenoon of that day, whereby he granted and released to the said Thomas G. Shearman, his heirs and assigns, the following described premises with the appurtenances:

138 All that certain tract of land, situate, lying and being in the town of Brookhaven, County of Suffolk and State of New York, beginning at a point formed by the intersection of the southerly line of the North Country Road and the easterly line of a road running south from the North Country Road to farm of Jemima Randall, and commonly called the Jemima Randall Road; running thence easterly along the southerly line of the North Country Road to its intersection with the Long Island Railroad; and thence along the southerly line of the Long Island Railroad, in all, a distance from the point of beginning of twenty-two hundred and fifty (2250) feet; thence southerly, or nearly so, in a straight line to the northwest corner of land late of George E. Hegeman, and now of James S. Warden, Trustee, and along the westerly line of

Decision.

said land late of George E. Hegeman, which runs 139
south three degrees fifty two minutes west, in all
a distance from the southerly side of the said Long
Island Railroad, of four thousand (4,000) feet;
thence westerly in a line parallel with the north-
erly line of said land, late of George E. Hegeman,
to the easterly line of the said Jemima Randall
Road, and thence northwesterly along the easterly
side of the said Jemima Randall Road to the point
or place of beginning, containing in all two hun-
dred acres more or less.

TWENTY NINTH: That at the time of recording
the said mortgage the said Thomas G. Shearman
paid the mortgage tax required by law.

Ex 8
140

THIRTIETH: That the said mortgage contains the
same conditions as the said bond, with the further
condition that if the said mortgagor, his heirs,
executors, administrators or assigns, should not
pay the moneys thereby secured according to the
terms thereof, or if default should be made in the
payment of the principal or interest at the times
when the same became due as aforesaid, then the
said Thomas G. Shearman, his legal representa-
tives or assigns, were empowered to sell the said 141
mortgaged premises in due form of law, and out
of the moneys arising from such sale to pay the sum
of money and interest in and by said bond and
mortgage secured to be paid, together with the
costs and expenses of the proceedings thereupon,
the surplus, if any there should be, to be returned
to the said mortgagor, his heirs, executors, admin-
istrators or assigns.

Ex 9

THIRTY FIRST: That it was further expressly
agreed in and by the said bond and mortgage that

Ex 10

Decision.

142 the whole of the said principal sum should become due and owing at the option of the said Thomas G. Shearman, his legal representatives or assigns, after default in the payment of interest or in the payment of any tax or assessment for thirty days.

Ex 11 THIRTY SECOND: That no part of the principal or interest secured to be paid by the said bond and mortgage has been paid.

Ex 12 143 THIRTY THIRD: That there is now due and payable on account of the said bond and mortgage the sum of three thousand four hundred seventy eight and 81/100 dollars with interest thereon from the 28th day of October, 1900, at the rate of five per centum per annum.

THIRTY FOURTH: That no action has been brought and no proceedings have been had at law or otherwise for the recovery of the said sum secured by the said bond and mortgage or any part thereof.

Ex 13 THIRTY FIFTH: That the amount due the plaintiffs on the bond and mortgage dated April 27, 1904, I have computed and found to be the sum of \$15,105.33.

Ex 14 144 THIRTY SIXTH: That the amount due the plaintiffs on the bond and mortgage dated May 7, 1908, I have computed and found to be the sum of \$9,875.22.

Ex 15 THIRTY SEVENTH: That the amount due the defendant Thomas G. Shearman on the bond and mortgage dated October 28, 1905, I have computed and found to be the sum of \$6,341.08.

Ex 16 THIRTY EIGHTH: That at the time of the making of the said bonds and mortgages as described in the complaint, there were erected upon the said

buildings have
no value

Decision.

mortgaged premises certain buildings having no 145
commercial value and containing personal property
of the value of a few thousand dollars.

THIRTY NINTH: That on or about the 29th day of
March, 1915, the said buildings on the said mort-
gaged premises had been practically abandoned and
were in an advanced stage of demolition and decay,
and that on said date little personal property of
value remained in said buildings, and what did
remain there had for the most part been stripped of
removable parts and otherwise seriously injured.

EX. 17
buildings abandoned
demolished - decayed
little personal property

FORTIETH: That on or about the 29th day of 146
March, 1915, the defendant Nikola Tesla executed
a deed of the mortgaged premises and a bill of sale
of the personal property then remaining thereon
and of a large amount of personal property which
did not then remain thereon; that said deed and
bill of sale were executed by the said defendant
Nikola Tesla as his free and voluntary act and not
by reason of any duress, coercion, undue influence,
or influence of any kind exercised upon him by any
person whatsoever, and with the sole intent and
purpose that the said deed and bill of sale should
be absolute and complete conveyances as specified
by the terms thereof.

Exemption 18
Tesla executed
deed & B of S without coercion
when did Referee get this

FORTY FIRST: That thereupon all interest of the
defendant Nikola Tesla in or to the said mortgaged
premises or any part thereof, or in or to the per-
sonal property thereon, ceased and determined
absolutely and forever and has never been revived.

EX 19
did not because of this
enter

FORTY SECOND: That on the said 29th day of
March, 1915, and for a long time prior and subse-
quent thereto, the said mortgaged premises and the

EX 20

Decision.

148 buildings thereon and the personal property thereon taken together were of less value than the amount due on the two mortgages held by the plaintiffs to foreclose which this action was brought.

6/21
Tesla not damaged

FORTY THIRD: That the defendant Nikola Tesla has not been damaged by the plaintiffs, or by George C. Boldt, deceased, or by The Waldorf-Astoria Hotel Company, in any sum whatever.

Ex 22
honest debts

FORTY FOURTH: That the mortgages which the plaintiffs and the defendant Shearman are foreclosing by this action represent honest debts upon which not one penny has ever been paid.

Ex 23

FORTY FIFTH: That the defendant Nikola Tesla has made no offer to the plaintiffs to redeem, or to pay any portion of his indebtedness, or to do anything whatever.

Ex 24

150 FORTY SIXTH: That on or about the 29th day of March, 1915, when the defendant Nikola Tesla executed the deed of the mortgaged premises and the bill of sale of the personal property therein referred to, the said defendant Nikola Tesla was indebted to the predecessors in interest of these plaintiffs in the sum of about \$8,000, in addition to the mortgages to foreclose which this action was brought, which said claim of about \$8,000. was entirely unsecured.

Ex 25

no merger intended

FORTY SEVENTH: That there was no intention on the part of any party to the transaction that the said mortgages hereinbefore described, or any of them, should merge upon the execution and delivery of the said deed on March 29, 1915, but that there was a definite and positive intention on the part of all parties that no merger should take place; and that there was and is no such merger. —

Decision.

CONCLUSIONS OF LAW.

FIRST: That the amount due the plaintiffs on the bond and mortgage dated April 27, 1904, at the date of this decision is the sum of \$15,105.33.

151

ex \$15,105.33
\$9,875.22

SECOND: That the amount due the plaintiffs on the bond and mortgage dated May 7, 1908, at the date of this decision is the sum of \$9,875.22.

ex,

THIRD: That the amount due the defendant Thomas G. Shearman on the bond and mortgage dated October 28, 1905, at the date of this decision is the sum of \$6,341.08.

ex

152

FOURTH: That at the time of the making of the said bonds and mortgages as described in the complaint, there were erected upon the said mortgaged premises certain buildings having no commercial value and containing personal property of the value of a few thousand dollars.

ex

FIFTH: That on or about the 29th day of March, 1915, the said buildings on the said mortgaged premises had been practically abandoned and were in an advanced stage of demolition and decay, and that on said date little personal property of value remained in said buildings, and what did remain there had for the most part been stripped of removable parts and otherwise seriously injured.

ex

153

SIXTH: That on or about the 29th day of March, 1915, the defendant Nikola Tesla executed a deed of the mortgaged premises and a bill of sale of the personal property then remaining thereon and of a large amount of personal property which did not then remain thereon; that said deed and bill of sale were executed by the said defendant Nikola Tesla

ex

Decision.

154 as his free and voluntary act and not by reason of any duress, coercion, undue influence, or influence of any kind exercised upon him by any person whatsoever, and with the sole intent and purpose that the said deed and bill of sale should be absolute and complete conveyances as specified by the terms thereof.

Ex SEVENTH: That thereupon all interest of the defendant Nikola Tesla in or to the said mortgaged premises or any part thereof, or in or to the personal property thereon, ceased and determined absolutely and forever and has never been revived.

155 EIGHTH: That on the said 29th day of March, 1915, and for a long time prior and subsequent thereto, the said mortgaged premises and the buildings thereon and the personal property thereon taken together were of less value than the amount due on the two mortgages held by the plaintiffs to foreclose which this action was brought.

Ex NINTH: That the defendant Nikola Tesla has not been damaged by the plaintiffs, or by George C. Boldt, deceased, or by The Waldorf-Astoria Hotel
156 Company, in any sum whatever.

Ex TENTH: That the mortgages which the plaintiffs and the defendant Shearman are foreclosing by this action represent honest debts upon which not one penny has ever been paid.

Ep ELEVENTH: That the defendant Nikola Tesla has made no offer to the plaintiffs to redeem, or to pay any portion of his indebtedness, or to do anything whatever.

Decision.

TWELFTH: That on or about the 29th day of March, 1915, when the defendant Nikola Tesla executed the deed of the mortgaged premises and the bill of sale of the personal property therein referred to, the said defendant Nikola Tesla was indebted to the predecessors in interest of these plaintiffs in the sum of about \$8,000. in addition to the mortgages to foreclose which this action was brought, which said claim of about \$8,000. was entirely unsecured. 157 ex

THIRTEENTH: That there was no intention on the part of any party to the transaction that the said mortgages hereinbefore described, or any of them, should merge upon the execution and delivery of the said deed on March 29, 1915, but that there was a definite and positive intention on the part of all parties that no merger should take place; and that there was and is no such merger. 158 ex

I accordingly direct judgment for the plaintiffs as follows:

(a) That the defendants herein and all persons claiming under them, or any of them, subsequent to the commencement of this action, and all persons whose interest, conveyance or encumbrance is subsequent, or is subsequently recorded, be barred and foreclosed of all right, title, interest, lien or equity of redemption in the said mortgaged premises. 159

(b) That the said mortgaged premises, or so much thereof as may be sufficient to raise the amount due to the plaintiffs for principal and interest, the expenses of the sale and the costs of this action, and which may be sold separately without material injury to the parties interested, be sold according to law.

Decision.

160 (c) That out of the moneys arising from the sale thereof, the plaintiffs be paid the amount due on the said bond and mortgage dated April 27, 1904, with interest to the time of such payment, with the expenses of the sale and the costs and expenses of this action so far as the amount of such moneys properly applicable thereto will pay the same; that after making such payments as aforesaid, the balance remaining from said proceeds of sale, if any, be applied, first, to the payment of the amount due on the bond and mortgage affecting the said premises given by the defendant Nikola Tesla to the defendant Thomas G. Shearman to
161 secure the payment of the sum of \$3,478.81, bearing date October 28, 1905, with interest to the time of such payment; and second, to the payment to the plaintiffs of the amount due on the bond and mortgage dated May 7, 1908, with interest to the time of such payment.

(d) That the defendant Nikola Tesla be charged with any deficiency which may remain after applying all of such moneys so applicable thereto.

162 (e) That the plaintiffs may apply to this Court for the appointment of a referee to sell and for the naming of a depository for the funds arising on such sale by the judgment to be entered on this decision.

(f) That the plaintiffs have the costs and disbursements of this action.

Dated April 11th, 1922.

ROWLAND MILES
Referee

55

Defendant Nikola Tesla's Proposed Findings. 163

SUPREME COURT OF THE STATE OF NEW
YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the Last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs.

AGAINST

164

NIKOLA TESLA, unmarried, THE WAL-
DORF-ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

165

Pursuant to an order of this Court made in the above entitled action on the 4th day of November, 1921, and duly entered on the 22nd day of November, 1921, by which it was referred to the undersigned Referee to hear and determine all of the issues in this action which was brought to foreclose two mortgages executed and delivered by defendant Nikola Tesla, and having duly made and filed my oath as Referee, and having heard the allegations,

Defendant Nikola Tesla's Proposed Findings.

166 proofs and evidence of plaintiffs and of the defendant Nikola Tesla and of the defendant Thomas G. Shearman.

And the trial of the issues having been had before me in the City and County of New York on the 29th day of December, 1921, the 19th day of January 1922, the 26th day of January 1922, the 2nd day of February 1922, and the 28th day of February, 1922, and upon said hearings Messrs. Baldwin and Hutchins having appeared as attorneys for plaintiffs, with Herbert L. Fordham, Esq., as counsel, William Rasquin, Jr., attorney for defendant Nikola Tesla, with Ralph J. Hawkins, Esq., as
167 counsel, Willard A. Mitchell, Esq., attorney for the defendant Thomas G. Shearman, and no other parties having appeared before me.

And it having been stipulated and agreed that before any evidence be offered which would be admissible only if a certain deed and bill of sale executed and delivered by defendant Tesla be held to be mortgages, be first submitted to the Referee who shall first decide that question, and, if he decide that they are mortgages, the reference shall be continued and an accounting be had, and should he otherwise decide, then no accounting would be
168 necessary.

I do therefore find and decide as follows:

MATTERS OF FACT.

I. That the Waldorf Astoria Hotel Company was and is a domestic corporation.

Refused, except as already found in the decision.
—R. M.

II. That the defendant Nikola Tesla, to secure payment to George C. Boldt, deceased, of the sum of \$7,270.35 and interest thereon, on April 27th

Defendant Nikola Tesla's Proposed Findings.

1904 executed, acknowledged and delivered to said Boldt, his bond bearing date that day, in the penal sum of \$14,540.70, on condition that the same be void if said Tesla pay or cause to be paid the sum of \$7,270.35 sixty days after the date of said bond, with interest at the rate of 6% per annum. 169

Refused, except as already found in the decision.
—R. M.

III. That as collateral for the payment of said bond, the said Tesla on the same day duly executed and delivered to said George C. Boldt, deceased, a mortgage which was duly recorded in the Suffolk County Clerk's Office in Liber 374 of Mortgages. at Page 124, on September 12th 1911, whereby he granted and released unto said Boldt, for the purpose in said mortgage specified, the following described premises: 170

All that certain tract of land, situate, lying and being in the town of Brookhaven, County of Suffolk and State of New York, beginning at a point formed by the intersection of the southerly line of the North Country Road and the easterly line of a road running south from the North Country Road to farm of a road running south from the North Country Road to farm of Jemima Kaudall, and commonly called the Jemima Randall Road; running thence easterly along the southerly line of the North Country Road to its intersection with the Long Island Railroad; and thence along the southerly line of the Long Island Railroad in all, a distance from the point of beginning of twenty-two hundred and fifty (2250) feet; thence southerly, or nearly so, in a straight line to the northwest corner of land late of George E. Hegeman, and now of James 171

Defendant Nikola Tesla's Proposed Findings.

172 S. Warden, trustee, and along the westerly line of said land late of George E. Hegeman, which runs south three degrees fifty-two minutes west, in all a distance of four thousand (4000) feet; thence westerly in a line parallel with the northerly line of said land, late of George E. Hegeman, to the easterly line of the said Jemina Randall Road, and thence northwesterly along the easterly side of the said Jemina Randall Road to the point or place of beginning, containing in all two hundred acres more or less.

173 IV. That it was expressly provided in and by the said bond and mortgage, that in the event of default in payment as in the said instruments provided, that the mortgagee, his legal representatives or assigns might apply for and be entitled to the appointment of a receiver, by any competent court, for the rents and profits of the mortgaged premises.

Refused, except as already found in the decision.—R. M.

174 V. That said George C. Boldt, deceased, died testate, his will having been duly admitted to probate by a Surrogate of the County of New York on December 13th 1916, under the provisions of which Clover Boldt Miles and George C. Boldt, Jr. were named as executors thereof, did duly qualify, are still acting in that capacity, and are the plaintiffs in this action.

Refused, except as already found in the decision.—R. M.

VI. That no part of the principal nor interest has been paid, and that there is now due and pay-

Defendant Nikola Tesla's Proposed Findings.

able to plaintiffs on account of said bond and mortgage, the sum of \$7,270.35 with interest since April 27th 1904 at 6% per annum. 175

Refused, except as already found in the decision.—R. M.

VII. That said mortgage was executed and delivered by defendant Nikola Tesla, and taken and received by the mortgagee Boldt, for the Waldorf Astoria Hotel Company and for its benefit.

Refused, except as already found.—R. M.

VIII. That the defendant Nikola Tesla, for the purpose of securing payment to the Waldorf Astoria Hotel Company, of the sum of \$5,379.82 and interest thereon, did on May 7th 1908 execute, acknowledge and deliver to said Company, his bond bearing date May 5th 1908, whereby he bound himself, his heirs, executors and administrators in the penal sum of \$10,759.64 on condition that the same should pay to the Waldorf Astoria Hotel Company, its successors or assigns, the sum of \$5,379.82, two months after date, with interest at the rate of 6%. 176

Refused, except as already found in the decision.—R. M.

177

IX. That as collateral security for the payment of said bond described in Finding of Fact numbered VIII, defendant Tesla executed and delivered to said Waldorf Astoria Hotel Company, a mortgage which was recorded in the Suffolk County Clerk's office in Liber 374 of Mortgages, page 126, September 12th 1911, whereby he granted and released to said Waldorf Astoria Hotel Company, the premises described in Finding of Fact

Defendant Nikola Tesla's Proposed Findings.

178 numbered III herein, subject and subordinate to two other mortgages.

Refused, except as already found in the decision.—R. M.

X. That the said mortgage contained the same conditions as said bond, and provided that if default were made in payments, that the mortgagee, or his successor, might apply to a proper court for the appointment of receiver of rents and profits described in the mortgage, as therein provided.

Refused, except as already found in the decision.—R. M.

179

XI. That thereafter, by written instrument dated November 17th 1921, and duly recorded in the Suffolk County Clerk's office, said Waldorf Astoria Hotel Company duly assigned unto Clover Boldt Miles and George C. Boldt, Jr., as executors of the estate of George, deceased, plaintiffs herein, the said bond and mortgage executed and delivered by said Tesla to said Waldorf Astoria Hotel Company.

Refused, except as already found in the decision.—R. M.

180 XII. That nothing has been paid on account of said principal or interest, and that there is now due and payable to the plaintiffs, on account of said bond and mortgage, the sum of \$5,379.82 with interest since May 5th 1908, at the rate of 6% per annum.

Refused, except as already found in decision.—R. M.

XIII. That at the time of making said bonds and mortgages above found and recited, there was erected upon the said mortgaged premises, a brick factory or laboratory building about 100 feet long by 100 feet wide, containing one floor, being a high

Defendant Nikola Tesla's Proposed Findings.

one-story building which was divided into four compartments, one of which was a machine shop, being about 100 feet long by about 35 feet wide; another compartment 100 feet long and about 35 feet wide; the two other compartments contained engines and boilers, and having a chimney 4 feet by 4 feet; said building had a gable roof, and the building rested upon a cement foundation and had the usual modern conveniences and water pumps. There was in said building, two 300 horse-power boilers, with pumps, injectors and other accessories, also large water tanks having a capacity of about 16,000 gallons. 181 182

Refused.—R. M.

XIV. That said building, at the time the above recited mortgages were executed, also contained two engines, one of which was a 400 horse-power Westinghouse reciprocating engine, made to drive a dynamo with which it was connected and which was made for purposes of defendant Tesla; also a 35-Kilowatt Westinghouse outfit for driving the dynamo, which was for the purpose of lighting and other work, a permanent attachment to the building; also, a high pressure compressor and a low pressure compressor; also a high pressure water pump and a reciprocating low pressure water pump; there was also upon the premises, tools, electrical apparatus and experimental apparatus, which did cost and which did have a value of many thousands of dollars. 183

Refused.—R. M.

XV. There was also upon said property when said mortgages were made, a high tower building of wood, having a top or dome of steel, erected for

Defendant Nikola Tesla's Proposed Findings.

184 the purpose of experimenting with wireless telegraphy, and for the purpose of taking and or receiving wireless telegraphic messages.

Refused.—R. M.

XVI. That the said buildings were of the value of \$150,000.00, and that the said factory or laboratory building contained personal property worth many thousands of dollars.

Refused.—R. M.

185 XVII. That on or about March 29th 1915, George C. Boldt, deceased, and defendant Waldorf Astoria Hotel Company requested and demanded from the defendant Tesla, further securities for moneys due upon said bonds and mortgages.

Refused.—R. M.

186 XVIII. That on March 29th 1915 the said George C. Boldt, deceased, and defendant Waldorf Astoria Hotel Company, through their attorney, did threaten to place defendant Tesla in bankruptcy unless said Tesla executed a deed for the said premises and the buildings thereon, and a bill of sale or the personal property therein, and did agree that the said George C. Boldt, deceased, and Waldorf Astoria Hotel Company would hold such deed and bill of sale as additional and further collateral security, with the mortgages already held by them and in their possession.

Refused.—R. M.

XIX. That said deed and said bill of sale were executed by the defendant Tesla, and said bill of sale was made by said Tesla to William N. Hallock, and conveyed all of his chattels located in the brick building upon the premises described in said mort-

Defendant Nikola Tesla's Proposed Findings.

gages, and bore date the 30th day of March, 1915, 187
and said bill of sale was transferred from said
Hallock to the Waldorf-Astoria Hotel Company.
Refused.—R. M.

XX. That defendant Nikola Tesla made and executed his deed bearing date March 30th 1915, to Lester B. Holmes.

Found, as modified, otherwise refused.—R. M.

XXI. That said Tesla delivered to Francis S. Hutchins, attorney for the Waldorf Astoria Hotel Company, said deed in which Lester S. Holmes is named as the grantee.

Found.—R. M.

XXII. That said Lester S. Holmes was a clerk employed in the office of Mr. Francis S. Hutchins.

Found.—R. M.

XXIII. That Francis S. Hutchins was named as the grantee instead of the Waldorf Astoria Hotel Company for the purpose of avoiding a merger.

Refused.—R. M.

XXIV. That said Holmes, the grantee, had no real or beneficial interest in the deed, and he executed another deed describing the same property, to Vincent T. Griffin, who in turn conveyed it by deed which was never recorded, to the Waldorf Astoria Hotel Company.

Found.—R. M.

XXV. That said bill of sale executed by Tesla to Hallock, and the said deed executed by Tesla to Holmes, were executed and delivered by Tesla, after a conversation with Hutchins, attorney for

he refused 16
17
18
19
why did he find the

188

189

yes

Defendant Nikola Tesla's Proposed Findings.

190 the Waldorf Astoria Hotel Company, that the instruments would be held as security.
Refused.—R. M.

XXVI. That when Nikola Tesla executed and delivered said bill of sale and said deed, he did so, understanding that they were delivered by him and accepted as further, additional security.
Refused.—R. M.

191 XXVII. That said Nikola Tesla delivered said bill of sale and said deed, not as absolute conveyances, but as security of the nature of mortgage.
Refused.—R. M.

XXVIII. That said deed and bill of sale were taken for the benefit of the Waldorf Astoria Hotel Company.
Refused, except as heretofore found.—R. M.

XXIX. That after the execution and delivery of said bill of sale and of said deed, Francis S. Hutchins, the attorney for the Waldorf Astoria Hotel Company, wrote and sent defendant Tesla a letter of which the following is a copy:

192

"JULY 13, 1917.

"NIKOLA TESLA, Esq.,
"Waldorf-Astoria,
"New York City

"DEAR SIR:

"Your remarkable communication of the
"12th instant, addressed to the Waldorf-
"Astoria Hotel Company, has been by it re-
"ferred to us for attention.

"It is so full of inaccuracies that we will not

Defendant Nikola Tesla's Proposed Findings.

"at the moment attempt to point out the 193
 "various serious misapprehensions, which you
 "seem to be laboring under.

"We do, however, desire to call your atten-
 "tion to the fact that we hold warranty deed
 "from you to one of our clients for this prop-
 "erty, which deed was duly recorded some two
 "years ago, and that we also hold from you
 "bill of sale of all the personal property in or
 "about the premises, to another client of ours.
 "This bill of sale is dated March 30, 1915, and
 "by its terms, you, among other things, agreed
 "to warrant and defend the sale of said chattels
 "to our client.

"Under these circumstances, we fail to see
 "what interest you now have in the property.

"If you desire to communicate further in re-
 "gard to the matter, we would suggest that you
 "address such communications to us.

"Very truly yours,
 "BALDWIN & HUTCHINS"

Found.—R. M.

XXX. That no receiver of the real property
 described in either of the said mortgages, nor of
 the rents or profits thereof, was ever appointed. 195

Refused.—R. M.

XXXI. That during the month of July, 1915, the
 Waldorf Astoria Hotel Company entered into
 possession of the said premises.

Found.—R. M.

XXXII. That in July 1915, the Waldorf Astoria
 Hotel Company entered into possession of the prem-
 ises by having signs put up, that it was the property
 of Lester S. Holmes, and that was done through

194

*in which bond
 but inconsistent.*

Defendant Nikola Tesla's Proposed Findings.

196 Mr. Hutchins, who was the attorney for the Waldorf Astoria Hotel Company.
Found, as modified, otherwise refused.—R. M.

XXXIII. That the Waldorf Astoria Hotel Company demolished or caused to be demolished, the tower which was erected upon the premises, and sold the material of which it was constructed.
Found.—R. M.

197 XXXIV. That the Waldorf Astoria Hotel Company did not account to the defendant Tesla for having taken down said tower (*there being no reason why it should do so*).
Found, as modified, otherwise refused.—R. M.

XXXV. That the Waldorf Astoria Hotel Company sold, or caused to be sold, certain personal property in the factory or laboratory building, and caused to be removed to the Waldorf Astoria Hotel certain property in and upon said premises (*the total value of all said property being insignificant in comparison with the indebtedness of the defendant Tesla to the Waldorf Astoria Hotel Company*).

198 XXXVI. That said Waldorf Astoria Hotel Company has not accounted, nor has any one in its behalf, or otherwise, accounted to the defendant Tesla for the personal property removed from said premises (*which was of insignificant value in comparison with the indebtedness of defendant Tesla to the Waldorf Astoria Hotel Company*).

And I decide and make the following

CONCLUSIONS OF LAW:

1. That the deed made, executed and delivered by Nikola Tesla, containing the name of the grantee Lester S. Holmes, and made for the benefit of the

Defendant Nikola Tesla's Proposed Findings.

Waldorf Astoria Hotel Company, on or about 190 March 30th 1915, which was recorded July 21, 1915, was made, executed and delivered as additional security, and in the nature of a mortgage, and not as an absolute conveyance.

Refused.—R. M.

2. That the said bill of sale made and executed by defendant Tesla to Hallock, and by him transferred to the Waldorf Astoria Hotel Company, was made, executed and delivered as security, and not as an absolute conveyance.

Refused.—R. M.

3. That said deed and bill of sale were executed and delivered as security, with a condition of defeasance arranged and agreed upon by oral expressions between the defendant Tesla and Francis S. Hutchins, attorney for the Waldorf Astoria Hotel Company.

Refused.—R. M.

4. That had the said deed and bill of sale been delivered as absolute conveyances for the benefit of the Waldorf Astoria Hotel Company, that would have worked a merger, and the Waldorf Astoria Hotel Company would have held the mortgages described in the complaint, upon its own property, and the present action would be untenable.

Refused.—R. M.

5. That the said deed and bill of sale having been executed and delivered as securities in the nature of mortgages, so continued, and there is nothing before this court to show that their character has changed.

Refused.—R. M.

*Why Hutchins
said so*

200

*the letter
confirms this*

201

why

Defendant Nikola Tesla's Proposed Findings.

- 202 6. That during the month of July 1915, the Waldorf Astoria Hotel Company, acting through the grantee in said deed and bill of sale, entered into possession of said premises and property of the defendant Tesla, described in the complaint and in the answer in this action.

Refused.—R. M.

- 203 7. That the Waldorf Astoria Hotel Company having entered into possession, caused to be removed and demolished the tower on said premises, consisting of wood and steel; that the material in said tower was disposed of by the Waldorf Astoria Hotel Company, and that said material had a commercial market value.

Refused.—R. M.

8. That the Waldorf Astoria Hotel Company removed from the building upon the premises, certain personal property of defendant Tesla, which had a commercial market value.

Refused.—R. M.

- 214 9. That neither the Waldorf Astoria Hotel Company nor any one in its behalf has accounted to defendant Tesla for the value of the property demolished and removed.

Refused.—R. M.

10. That because of the demolition of said tower, and removal of said property, defendant Tesla has sustained a considerable injury for which he is entitled to be compensated in damages.

Refused.—R. M.

11. That said Tesla has not been compensated for any of the acts herein nor been awarded damages for the injuries which he sustained because of the said entry into possession of his property and

Defendant Nikola Tesla's Proposed Findings.

the demolition, spoliation and asportation of parts 205
of the same, and that he is entitled to damages and
compensation therefor.

Refused.—R. M.

12. That because the said deed and bill of sale
were executed and delivered by the defendant Tesla
as security, that they were delivered as mortgages,
and have continued as such, and that the plaintiffs
must account to the defendant Nikola Tesla for all
moneys or property received by them or received
by George C. Boldt, or by the Waldorf Astoria
Hotel Company, as income, rent, issues, profits,
and for all moneys received for the sale of personal 206
property, for the value of personal property as-
ported, and not sold, and for the tower which was
demolished and sold.

Refused.—R. M.

13. That the defendant Tesla is entitled to have
set off against the sum due the plaintiffs under
the mortgages described in the complaint, pro rata
the amount of damage which he has sustained be-
cause of the injuries by reason of the entry, re-
moval and sale of property from said premises, and
in the event that his damages exceed the amounts
unpaid under said mortgages, for principal and in-
terest, that he is entitled to a judgment for the dif- 207
ference.

Refused.—R. M.

14. That an accounting, as described in Conclu-
sion of Law numbered 12 hereof is the next step
to be taken in this proceeding.

Refused.—R. M.

Dated at Northport, N. Y., May 11th, 1922.

ROWLAND MILES
Referee.

208

Exceptions.SUPREME COURT OF THE STATE OF
NEW YORK,

COUNTY OF SUFFOLK.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the last
Will and Testament of George C.
Boldt, deceased,

Plaintiffs,

AGAINST

209

NIKOLA TESLA, unmarried, THE WAL-
DORF ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON & COMPANY, INCORPO-
RATED, as successors to Westing-
house, Church, Kerr & Company,
ORANGE T. FANNING and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait and
Foster, GEORGE H. D. FOSTER,
Defendants.

210

TAKE NOTICE, that the defendant, Nikola Tesla, excepts to the decision of the Referee filed in the above entitled action, in the office of the County Clerk of Suffolk County, New York, on the 13th day of April, 1922, and to the findings of fact and conclusions of law herein made by said Referee, and filed in the Suffolk County Clerk's office on the 13th day of April, 1922, in the following particulars:

I. To the ELEVENTH finding of fact, upon the ground that there is no evidence tending to sustain it.

Exceptions.

II. To the TWELFTH finding of fact, upon the 211
ground that there is no evidence tending to sus-
tain it.

III. To the TWENTY-THIRD finding of fact, upon
the ground that there is no evidence tending to
sustain it.

IV. To the TWENTY-FOURTH finding of fact, upon
the ground that there is no evidence tending to
sustain it.

V. To the TWENTY-SIXTH finding of fact, upon
the ground that there is no evidence tending to
sustain it. 212

VI. To the TWENTY-SEVENTH finding of fact, upon
the ground that there is no evidence tending to
sustain it.

VII. To the TWENTY-EIGHTH finding of fact, upon
the ground that there is no evidence tending to
sustain it.

VIII To the TWENTY-NINTH finding of fact, upon
the ground that there is no evidence tending to
sustain it.

IX. To the THIRTIETH finding of fact, upon 213
the ground that there is no evidence tending to
sustain it.

X. To the THIRTY-FIRST finding of fact, upon
the ground that there is no evidence tending to
sustain it.

XI. To the THIRTY-SECOND finding of fact, upon
the ground that there is no evidence tending to
sustain it.

XII. To the THIRTY-THIRD finding of fact, upon
the ground that there is no evidence tending to
sustain it.

Exceptions.

214 XIII. To the THIRTY-FIFTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XIV. To the THIRTY-SIXTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XV. To the THIRTY-SEVENTH finding of fact, upon the ground that there is no evidence tending to sustain it.

215 XVI. To the THIRTY-EIGHTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XVII. To the THIRTY-NINTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XVIII. To the FORTIETH finding of fact, upon the ground that there is no evidence tending to sustain it.

XIX. To the FORTY-FIRST finding of fact, upon the ground that there is no evidence tending to sustain it.

216 XX. To the FORTY-SECOND finding of fact, upon the ground that there is no evidence tending to sustain it.

XXI. To the FORTY-THIRD finding of fact, upon the ground that there is no evidence tending to sustain it.

XXII. To the FORTY-FOURTH finding of fact, upon the ground that there is no evidence tending to sustain it.

Exceptions.

XXIII. To the FORTY-FIFTH finding of fact, upon the ground that there is no evidence tending to sustain it. 217

XXIV. To the FORTY-SIXTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XXV. To the FORTY-SEVENTH finding of fact, upon the ground that there is no evidence tending to sustain it.

XXVI. To the FIRST conclusion of law.

XXVII. To the SECOND conclusion of law.

218

XXVIII. To the THIRD conclusion of law.

XXIX. To the FOURTH conclusion of law.

XXX. To the FIFTH conclusion of law.

XXXI. To the SIXTH conclusion of law.

XXXII. To the SEVENTH conclusion of law.

XXXIII. To the EIGHTH conclusion of law.

XXXIV. To the NINTH conclusion of law.

XXXV. To the TENTH conclusion of law.

XXXVI. To the ELEVENTH conclusion of law. 219

XXXVII. To the TWELFTH conclusion of law.

XXXVIII. To the THIRTEENTH conclusion of law.

XXXIX. Defendant Nikola Tesla excepts to the direction of judgment by the Referee for the plaintiffs, as described in paragraphs (a), (b), (c), (d), (e) and (f), all as set forth and contained in

Exceptions.

220 the findings and conclusions, the decision, of the referee, bearing date the 11th day of April, 1922.

Dated, Manhattan, New York City, New York,
April 27th 1922.

WILLIAM RASQUIN,
Attorney for defendant Nikola Tesla,
Office and Postoffice Address,
305 Broadway,
Borough of Manhattan,
New York City, N. Y.

221 To MESSRS. BALDWIN & HUTCHINS,
Attorneys for Plaintiffs,
120 Broadway,
Manhattan,
New York City, N. Y.

To WILLARD A. MITCHELL, Esq.,
Attorney for defendant Thomas G. Shear-
man,
141 Broadway,
Manhattan,
New York City, N. Y.

222 To FRED S. PULVER, Esq.,
County Clerk of Suffolk County, N. Y.

Judgment.

223

At a Special Term of the Supreme Court of the State of New York, Part II thereof, held at the Kings County Court House in the Borough of Brooklyn, City and State of New York, on the 18th day of April, 1922.

Present:

Hon. NORMAN S. DIKE,
Justice.

CLOVER BOLDT MILES and GEORGE C. BOLDT, JR., as Executors of the last Will and Testament of George C. Boldt, deceased,

Plaintiffs,

AGAINST

NIKOLA TESLA, unmarried, THE WALDORF-ASTORIA HOTEL COMPANY, THOMAS G. SHEARMAN, LESTER S. HOLMES, unmarried, VINCENT T. GRIFFIN, unmarried, DWIGHT P. ROBINSON & COMPANY, INCORPORATED, as successor to Westinghouse, Church, Keir & Company, ORANGE T. FANNING and THOMAS O'DONNELL, JOHN C. WAIT, individually and as receiver of Wait and Foster, GEORGE H. D. FOSTER,

Defendants.

224

Judgment
April
20, 1922
11 A. M.

225

The issues of law and fact in this action having been referred to Rowland Miles, Esq., Referee to hear and determine, by an order of this Court made and entered in the above entitled action and bearing date the 4th day of November, 1921, and after

Judgment.

226 trial had on due notice to all the parties, said Referee having on the 11th day of April, 1922, duly made his report herein, which said report was duly filed in the office of the Clerk of the County of Suffolk on the 13th day of April, 1922, stating the findings of fact herein and the conclusions of law thereon, and directing judgment as hereinafter stated, and notice of application therefor and for an additional allowance in conformity with the findings of the Referee having been served upon all those entitled to notice thereof,

227 Now, on reading and filing the affidavit of Francis S. Hutchins, verified on the 21st day of September, 1921, stating the proceedings in this action, the affidavit of George B. Ackerly, verified on the 1st day of March, 1921, the notice of appearance and waiver of the defendants Lester S. Holmes, Vincent T. Griffin and The Waldorf-Astoria Hotel Company by R. A. Young, Esq., their attorney, the notice of appearance and demand of the defendant Thomas G. Shearman by Willard A. Mitchell, Esq., his attorney, with admission thereon of due and timely service of the complaint in this action and with authorization by the said Thomas G. Shearman for such appearance; the notice of appearance and demand of the defendant Dwight P. Robinson & Company, Incorporated, as successor to Westinghouse, Church, Kerr & Company by Messrs. Cravath, Henderson, Leffingwell & DeGersdorff, their attorneys, with authorization by the said defendant for such appearance; the notice of appearance and waiver of the defendants Orange T. Fanning and Thomas O'Donnell by Thomas J. Ritch, Jr., Esq., their attorney, the notice of appearance and waiver of the defendants John C. Wait, individually and as receiver of Wait and Foster, by Howard G.

228

Judgment.

Wilson, Esq., his attorney, the affidavit of William K. Hammond, Jr., verified on the 24th day of February, 1921, the answer of the defendant Nikola Tesla, the answer of the defendant Thomas G. Shearman, and the reply of the plaintiffs to the counterclaim contained in the answer of the said defendant Nikola Tesla, all of which are hereto annexed and are to be filed herewith; and on the summons and verified complaint and all other papers and proceedings in this action heretofore filed and had herein, and it appearing therefrom among other things that this action was brought to foreclose two certain mortgages executed by the defendant Nikola Tesla, one to George C. Boldt and the other to The Waldorf-Astoria Hotel Company, which said mortgages by operation of law and by assignment are now held and owned by the plaintiffs herein; that the premises affected by this action are situated in the County of Suffolk and State of New York and are more particularly described in the complaint herein; that the summons and verified complaint in this action were duly personally served within the State of New York more than twenty days since on the defendants Nikola Tesla, John C. Wait, individually and as receiver of Wait and Foster, and George H. D. Foster, as appears by the affidavit of George B. Ackerly, verified on the 1st day of March, 1921, and the affidavit of William K. Hammond, Jr., verified on the 24th day of February, 1921; that the defendants The Waldorf-Astoria Hotel Company, Lester S. Holmes and Vincent T. Griffin have appeared herein by R. A. Young, Esq., their attorney, who has waived service of notice of all further proceedings except notice of sale and surplus proceedings; that the defendant Thomas G. Shearman has appeared herein by Willard A. Mitchell, Esq., his attorney, who has demanded

Judgment.

232 that a copy of the complaint and all other papers
in this action be served on him at his office No. 141
Broadway, Borough of Manhattan, New York City,
as appears by the said notice of appearance and
demand, with authorization therefor, upon which
notice of appearance is an admission of due and
timely service of a copy of the complaint in the
above entitled action; that the defendant Dwight
P. Robinson & Company, Incorporated, as suc-
cessor to Westinghouse, Church, Kerr & Company,
has appeared herein by Messrs. Cravath, Hender-
son, Leffingwell & DeGersdorff, its attorneys, who
233 have demanded that a copy of all papers herein
except the complaint be served on them at their
office, No. 52 William Street, Borough of Manhat-
tan, New York City, New York, as appears by the
said notice of appearance and demand, and author-
ization therefor by said defendant; that the defend-
ants Orange T. Fanning and Thomas O'Donnell
have appeared herein by Thomas J. Ritch, Jr. Esq.,
their attorney, who has waived notice of all further
proceedings except notice of sale and surplus pro-
ceedings, all of which are hereto annexed and are
to be filed herewith, the above named defendants so
served and appearing constituting all the defend-
234 ants in this action; that each and all of the de-
fendants are of full age and of sound mind and
that none of the defendants has been proceeded
against as an absentee; that the whole amount
secured by the bonds and mortgages described in
the complaint herein was due and payable at the
time of the commencement of this action, and that
more than twenty days since and on the 11th day
of February, 1921, the summons and verified com-
plaint in this action and a notice of the pendency
of this action in the form prescribed by sections
1631 and 1670 of the Code of Civil Procedure, con-

Judgment.

taining the names of the parties thereto, the object 235
of the action and a description of the premises in
that county affected thereby, the dates of the mort-
gages, the parties thereto, and the times and places
of recording the same, and endorsed thereon sub-
scribed by the plaintiffs' attorneys a direction to
the Clerk of the County of Suffolk, New York, to
index the same to the name of each and every de-
fendant in this action, as prescribed by section 1672
of the Code of Civil Procedure, were filed in the
office of the Clerk of the County of Suffolk, New
York, that being the county in which the said mort-
gaged premises were and are situated; that since 236
the filing of the said notice and complaint neither
the summons nor complaint in this action has been
amended; that the time for each and all of the de-
fendants herein to appear, answer, demur or other-
wise move herein has expired, and that none of the
defendants has appeared, answered, demurred or
otherwise moved herein except as aforesaid, and
except that the defendant John C. Wait, individ-
ually and as receiver of Wait and Foster, has
appeared herein by Howard G. Wilson, Esq. his
attorney, who has waived service of all papers and
notice of all proceedings except notice of sale and
of proceedings to obtain surplus moneys, as appears 237
by the said notice of appearance and waiver afore-
said; and except that the defendant Thomas G.
Shearman by Willard A. Mitchell, Esq., his attor-
ney, has served an answer herein which, however,
as therein stated, controverts no allegation of the
complaint but was served merely for the purpose
of setting forth the interest which the said Thomas
G. Shearman had in the premises, as appears by
the said answer hereto annexed and to be filed
herewith; and except that the defendant Nikola
Tesla by William Rasquin, Jr., Esq., his attorney,

Judgment.

238 has interposed an answer the issues raised by which,
and by the reply of the plaintiffs interposed to the
counterclaim in said answer contained, having duly
come on to be heard before Rowland Miles, Esq.,
Referee appointed by said order of reference here-
tofore duly made and entered herein to hear and
determine all the issues in this action as aforesaid,
and on the decision of the said Referee bearing date
the 11th day of April, 1922, heretofore duly filed
herein, whereby it appears that there was due to
the plaintiffs, Clover Boldt Miles and George C.
Boldt, Jr. as executors of the last Will and Testa-
ment of George C. Boldt, deceased, on the bond
239 and mortgage dated April 27, 1904, on the said
11th day of April, 1922, the date of the said Ref-
eree's report, the sum of \$15,105.33; and that there
was due to the said plaintiffs for principal and
interest on the said bond and mortgage dated May
7, 1908, on the 11th day of April, 1922, the date
of the said Referee's report, the sum of \$9,875.22;
and that there was due to the defendant Thomas
G. Shearman for principal and interest on the bond
and mortgage dated October 28, 1905, on the 11th
day of April, 1922, the date of the said Referee's
report, the sum of \$6,341.08; and on motion of
240 Baldwin & Hutchins, attorneys for the plaintiffs,

IT IS ORDERED, ADJUDGED AND DECREED, that the
said Referee's report and decision be and the same
hereby are in all things confirmed, and that there
is secured by and due to the plaintiffs Clover Boldt
Miles and George C. Boldt, Jr. as executors of the
last Will and Testament of George C. Boldt, de-
ceased, on the bond and mortgage set forth in the
complaint herein bearing date April 27, 1904, the
sum of \$15,105.33 with interest thereon from the
11th day of April, 1922, the date of the said report.

Judgment.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED, 241
that there is secured by and due to the plaintiffs
Clover Boldt Miles and George C. Boldt, Jr. as
executors of the last Will and Testament of George
C. Boldt, deceased, on the bond and mortgage set
forth in the complaint herein bearing date the 7th
day of May, 1908, the sum of \$9,875.22 with inter-
est thereon from the 11th day of April, 1922, the
date of the said report.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED,
that there is secured by and due to the defendant
Thomas G. Shearman on the bond and mortgage 242
set forth in the complaint herein, and more particu-
larly described in the answer of the said defendant
Thomas G. Shearman, bearing date the 28th day of
October, 1905, the sum of \$6,341.08 with interest
thereon from the 11th day of April, 1922, the date
of the said report.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED,
that the mortgaged premises described in the com-
plaint herein and which are hereinafter described,
or so much thereof as may be sufficient to discharge
the mortgage debt, the expenses of the sale and the
costs of this action, as prescribed by sections 1626 243
and 1676 of the Code of Civil Procedure, and which
may be sold separately without material injury to
the parties interested, be sold at public auction
to the highest bidder in the County of Suffolk and
State of New York, by and under the direction of
Rowland Miles, Esq., counselor at law, who is
hereby appointed referee for that purpose; that
the said referee give notice of the time and place
of such sale according to law and to the practice
of this Court; that the plaintiffs or any other party
to this action may become a purchaser on such
sale; that the said referee execute to the purchaser
or purchasers on such sale a deed or deeds to the

Judgment.

244 premises so sold; that the proceeds of the sale or
any part thereof shall be deposited by the said
referee in his own name as referee, as provided by
Rule 79 of the General Rules of Practice in Suf-
folk County Trust Co. and that the plaintiffs
after the delivery of the said deed or deeds may
apply at the foot hereof *ex parte* for an order in
accordance with Rule 79 of the General Rules of
Practice authorizing and directing the said referee
to pay from the proceeds so deposited the amount of
his fees and the expenses of such sale as prescribed
by section 1676 of the Code of Civil Procedure, and
245 to pay to Baldwin & Hutchins, the plaintiffs' attor-
neys, the sum of seven hundred sixty nine 11/100
dollars, costs and disbursements of this action to
be taxed by the Clerk of this Court, together with
an additional allowance of twelve hundred forty
nine and 03/100 dollars, being five per centum of
the amounts due on the said bonds and mortgages
set forth in the complaint, together with interest on
said sums from the date hereof, it being specifically
determined that the said allowance of five per cen-
tum is proper in view of the circumstances of this
case; and also pay to the plaintiffs or their attor-
neys the sum of \$15,105.33, the amount due on the
246 said bond and mortgage dated April 27, 1904, with
legal interest thereon from the 11th day of April,
1922, the date of the said referee's report, or so
much thereof as the purchase price of the mortgaged
premises will pay of the same; that after making
the payments aforesaid the balance remaining from
said proceeds of sale, if any, shall be applied, first
to the payment of the sum of \$6,341.08 to the de-
fendant Thomas G. Shearman, with interest thereon
from the 11th day of April, 1922, to the time of
such payment; and second, to the payment to the
plaintiffs of the sum of \$9,875.22, being the amount
due on the bond and mortgage bearing date the

Judgment.

7th day of May, 1908, with interest thereon from 247
 the 11th day of April, 1922, the date of the said
 referee's report, to the time of such payment, or so
 much thereof as the purchase price of the mort-
 gaged premises will pay of the same; that the said
 referee take the receipt of the plaintiffs or their
 attorneys and of the defendant Thomas G. Shear-
 man or his attorneys for the amounts so paid and
 file the same with his report of sale; that the pur-
 chase or purchasers on such sale be let into posses-
 sion of the premises on production of the referee's
 deed or deeds; that the said referee pay over the
 surplus moneys arising from such sale, if any, 248
 within five days after the same shall be received
 and be ascertainable to the County Treasurer of
 Suffolk County, subject to the further order of the
 Court, and take a receipt therefor and file the same
 with his report of sale, and that he make a report
 of such sale to the Clerk of this Court with all
 convenient speed.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED,
 that if the proceeds of the sale of the said premises
 be insufficient to pay the amounts so reported due
 to the plaintiffs and to the defendant Thomas G.
 Shearman, with the interest and costs aforesaid,
 the said referee specify the amount of such defi-
 ciency in his report of sale; that the defendant 249
 Nikola Tesla pay to the plaintiffs, Clover Boldt
 Miles and George C. Boldt, Jr. as executors of the
 last Will and Testament of George C. Boldt, de-
 ceased, and to the defendant Thomas G. Shearman,
 as the case may be, the said deficiency with inter-
 est thereon from the date of the said report, and
 that execution be had therefor.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED,
 that each and all of the defendants in this action,
 and all persons claiming under them, or any of

250 them, subsequent to the filing of the aforesaid notice of the pendency of this action, be and they hereby are forever barred and foreclosed of all claim, lien, right, title, interest and equity of redemption in the said mortgaged premises so sold or any part thereof. The following is a description and the particular boundaries of the premises to be sold as hereinbefore directed:

251 All that certain tract of land, situate, lying and being in the town of Brookhaven, County of Suffolk and State of New York, beginning at a point formed by the intersection of the southerly line of the North Country Road and the easterly line of a road running south from the North Country Road to farm of Jemima Randall, and commonly called the Jemima Randall Road; running thence easterly along the southerly line of the North Country Road to its intersection with the Long Island Railroad; and thence along the southerly line of the Long Island Railroad, in all, a distance from the point of beginning of twenty-two hundred and fifty (2250) feet; thence southerly, or nearly so, in a straight line to the northwest corner of land late of George E. Hegeman, and now of James S. Warden, trustee, and along the westerly line of said land late of George E. Hegeman, which runs 252 south three degrees fifty-two minutes west, in all a distance from the southerly side of the said Long Island Railroad, of four thousand (4000) feet; thence westerly in a line parallel with the northerly line of said land, late of George E. Hegeman, to the easterly line of the said Jemima Randall Road, and thence northwesterly along the easterly side of the said Jemima Randall Road to the point or place of beginning, containing in all two hundred acres more or less.

Enter

N. S. DIKE

J. S. C.

FRED S. PULVER

Clerk

Case.

253

1ST HEARING**SUPREME COURT OF THE STATE OF
NEW YORK,****SUFFOLK COUNTY.**

CLOVER BOLDT MILES and GEORGE C.
BOLDT, Jr., as Executors of the Last
Will and Testament of GEORGE C.
BOLDT, deceased,

Plaintiffs,

vs.

NIKOLA TESLA, unmarried, THE WAL-
DORF - ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON AND COMPANY, INCORPO-
RATED, as successor to Westing-
house, Church, Kerr and Company,
ORANGE T. FANNING, and THOMAS
O'DONNELL, JOHN C. WAIT, indi-
vidually and as receiver of Wait
and Foster, GEORGE H. D. FOSTER,
Defendants.

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111 Broadway, New York City,

DECEMBER 29, 1921, 10 A. M. 255

Before:

ROWLAND MILES, Esq.,
Referee.

APPEARANCES:

BALDWIN & HUTCHINS, Attorneys for Plain-
tiffs, HERBERT L. FORDHAM, Esq., of
Counsel.

WILLIAM RASQUIN, JR., Attorney for Defend-
ant Nikola Tesla, and

RALPH J. HAWKINS, Esq., of Counsel.

WILLARD A. MITCHELL, Attorney for defendant
Thomas G. Shearman.

256 Mr. Fordham: I produce and file the Referee's oath, dated September 28th, 1921.

(The oath is filed with the papers in the case.)

Mr. Fordham: I produce and file the appointment of this hearing by the Referee.

(Filed with the papers in the case.)

Mr. Fordham: I produce and file notice of this hearing, with admission of due and timely personal service by all the attorneys entitled to service of such notice.

257

(Filed with the papers in the case.)

Mr. Rasquin: Is there any provision in the order of reference with regard to permission of the Referee to sit outside of the County?

Mr. Fordham: I think we might make a stipulation to that effect.

The Referee: I think it would be well to put the stipulation on the record to that effect.

258 IT IS STIPULATED by and between the respective parties hereto that the Referee may sit and take testimony at any place agreed upon between the respective parties outside of the County of Suffolk.

Mr. Fordham: We better have a stipulation about the Referee's and stenographer's fees, probably. I would suggest this for your consideration:

IT IS STIPULATED AND AGREED by the parties to the action that the Referee shall not be limited in his charge to the legal rate of Ten Dollars per day, the statutory provision in that regard being hereby expressly waived, but that he shall make such reasonable charge as he shall see fit; and further, that the stenog

rapher's fees, as well as the Referee's fees 259
shall be taxed as a part of the costs of the
action.

Mr. Rasquin: That is acceptable to us.

The Referee: I think, counsel, I would like to
hear, if consistent with your notions of trying the
case—I do not want to dictate at all, but I really
would like to hear a statement from counsel, be-
cause I have given these pleadings some attention
and I would like to know the theory of each party
more fully than the pleadings reveal. I make that
suggestion.

Mr. Rasquin: I think it a wise one, so that we 260
may know just exactly where we stand.

Mr. Fordham: May it please the Court, this is
a foreclosure action. It is brought to foreclose two
mortgages. One of the mortgages, set forth in the
first cause of action, was given by the defendant
Tesla to George C. Boldt to secure the payment of
\$7,270.35. It was given on April 27, 1904. It is
now the property of the Estate of George C. Boldt,
Boldt being dead, and, therefore, legal title to the
mortgage is in the plaintiffs, who are the execu-
tors of Mr. Boldt's will. No part of this mortgage
nor of the interest due thereon has been paid.

The other mortgage is set forth in a second cause 261
of action. It was given by the defendant, Nikola
Tesla, to The Waldorf-Astoria Hotel Company on
the 7th day of May, 1908, to secure the payment of
the sum of \$5,379.83, and it has been assigned to
these plaintiffs. No part of the principal or inter-
est has been paid.

Thus far there appears nothing in the slightest
degree unusual, excepting perhaps, the patience of
the holders of the mortgages.

The defense interposed by the defendant Nikola
Tesla is to the effect that in March, 1915, the plain-

262 tiffs' testator, George G. Boldt, and the defendant Waldorf-Astoria Hotel Co., the plaintiffs, their and each of their agents, servants and attorneys, requested and demanded further security for the moneys due upon said bonds and mortgages so held by them and did threaten to place this defendant in bankruptcy unless this defendant executed a deed of the said premises and the buildings thereon and a bill of sale of the personal property therein, and that if the same were executed the said George C. Boldt and the Waldorf-Astoria Hotel Co. would only hold the same as additional and further collateral security to the mortgages already held by them and in their possession, and the said deed and said chattel mortgages were given as mortgages only.

263 That appears to be the essence of the defense.

Furthermore, by way of laying the foundation for a claim to affirmative relief against these plaintiffs, the defendant Tesla alleges that in or about the month of July, 1917, two years after the date just above referred to, the said George C. Boldt, the plaintiffs' testator and the defendant Waldorf-Astoria Hotel Co., plaintiffs' assignor, entered into possession of said premises as mortgagees and continued in possession thereof as for the plaintiffs since the death of said George C. Boldt, and received all the incomes, rents, benefits and profits of and from the said premises, and retained same and did wilfully and intentionally sell or destroy or dispose of or permitted to be destroyed and sold and disposed of the said buildings and the said personal property upon the said premises and in said building without the consent or knowledge of this defendant. That the said buildings and personal property were of a value of more than \$200,000.

And then by way of counterclaim repeating these allegations and others, the defendant Tesla sets forth a claim of damage to the extent of \$40,000. The reply to this counterclaim has annexed as an exhibit, a certain letter dated March 29, 1915, written to Nikola Tesla by Mr. Hutchins, of the firm of Baldwin & Hutchins, the attorneys for the plaintiffs, in which letter it is clearly set forth, not as claimed now by the defendant Tesla that the deed and bill of sale were given as additional security or in any sense as mortgages, but that they were as they purport to be, the only feature at all out of the ordinary being that, as a concession in favor of the defendant Tesla, these papers were not to be recorded until July, 1915. And I understand that there is no claim that they were recorded prior to July, 1915.

So much for formal language. Now, our understanding of the defendant Tesla's contention is this: that he gave the bill of sale and the deed in March, 1915 not as conveyances, but as mortgages. That is his claim, if I read the papers correctly. Our claim, of course, is that we already had all the mortgages, and rather more than all we could conveniently use. We had held them for years. There had nothing been paid on them, and nothing has ever been paid on them, the only payments received having been far less than other and additional indebtedness to the hotel not covered by the mortgages, and that the only condition pertaining to the giving and receiving of this deed and bill of sale, the only condition was the condition which I have already mentioned, namely, that they were not to be recorded until July, 1915. It is undeniable, I think, that they were not recorded, I believe, until the agreed date. It is undeniable, so far as I know, that until two years thereafter no action

268 was taken under them. But after that time, why should not action have been taken?

Your Honor will bear in mind that July, 1917, is over four years ago. And I think that it is undisputed that no action was taken by the defendant Tesla against the plaintiffs or their assignors or any of them alleging any wrongful conduct in July, 1917, and no claim in any legal proceeding was ever made until we started this foreclosure.

Now, it may occur to your Honor to inquire why it was, having this deed, that we started a foreclosure at a l. Well, that question is easily answered. It seems that between the date of the giving of the first and the second mortgage, or between the giving of the second mortgage and the recording of the bill of sale and deed, or both, other liens appeared of record. Indeed, I think that the fact will appear to be that having given the deed in late March, 1915, and having obtained our promise not to record it until July, 1915, a judgment in a considerable sum against the defendant Tesla and in favor of certain gentlemen who were or had been his attorneys appeared on the records of Suffolk County. So that in order to secure for ourselves what the deed purports to give us, we found it necessary in the end to bring this action of foreclosure on the two mortgages set forth.

I think that that sufficiently states the plaintiff's case.

Mr. Hawkins: If the Court please, we agree with Mr. Ferdham's statement of facts to a very large degree, and we accord with him in his statement that the first mortgage to Mr. Boldt was given I think April 27, 1904. That mortgage was not recorded until 1911, if I remember correctly, and thereafter another mortgage was given in 1908, and that mortgage was not recorded until somewhere

Case

about 1920, a period of years afterwards—a long 271
 period of years. These were mortgages, there is no
 doubt of that. Then we endeavor to emphasize in
 this expression our position: that after those two
 mortgages had been given, then Mr. Tesla was con-
 fronted with the choice of being declared a bank-
 rupt or bankruptcy proceedings being instituted
 against him unless he executed a deed conveying the
 property—purporting to convey the property—and
 also a bill of sale for certain personal property that
 was upon the premises at Rocky Point in Suffolk
 County.

The Referee: May I interrupt just a minute there? 272
 The description of the premises I did not have time
 to compare with the three instruments, the deed and
 the two mortgages. Is it as a matter of fact the
 same?

Mr. Rasquin: Yes, those are the same.

Mr. Fordham: I have not personally compared
 them.

Mr. Rasquin: It is so conceded, I think. We have
 all gone on that theory, Mr. Referee.

The Referee: Very well; proceed.

Mr. Hawkins: If they do differ a little bit in some
 details, why, I think we can accord on that.

The Referee: Yes.

Mr. Hawkins: As I stated, Mr. Tesla at a certain 273
 time was confronted with this situation of having a
 bankruptcy proceeding instituted against him un-
 less he executed a deed and a bill of sale for certain
 property upon the premises. That included a small
 part of the personal property that was there, he as-
 suming at that time, from statements made to him,
 that that deed would be held merely as collateral
 security, and was not intended as a conveyance of
 the property, and the bill of sale was given under
 like conditions.

274 As a little time rolled on and these mortgages being in their possession, they did not apply for a receiver, as the mortgage states they might do, but they entered upon the premises and took possession of the property and despoiled it absolutely,—the buildings, the laboratory apparatus, the experimental tower and the whole business there, and therefore our counterclaim for \$200,000.

Now, the letter annexed to the reply, your Honor will undoubtedly recall that that letter is annexed there merely as an exhibit, and for no other purpose; to-wit, it is not a part of the reply, but it is a self
275 declaring document annexed to the reply, and I believe about of the same weight and value as though merely a narrative statement of facts had been annexed to the reply, and I am sure that under the circumstances of that letter it does not constitute a part of their pleading, and if they choose to bring those facts before the Court they must prove them as they would any other facts, and the mere annexation of it as an exhibit for that purpose only gives it not the sanctity nor the importance of a part of the pleadings. There were no pleadings served, no rebutter or sur-rebutter in effect replying to the counterclaim. And that is the situation. We con-
276 tend that it was given as a collateral——

The Referee: You claim then, Mr. Hawkins, that this deed that was given at the time you have indicated, the primary purpose of it or the sole purpose of it, I might say, was that it was to be in effect a mortgage?

Mr. Hawkins: Yes.

The Referee: And that once a mortgage always a mortgage?

Mr. Hawkins: Always a mortgage.

The Referee: And that it carried with it the right to redeem?

Mr. Hawkins: Oh, yes.

The Referee: And that right to redeem has not been lost, is that so?

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Mr. Hawkins: That is our contention. And if I might be permitted, I would call your Honor's attention to these facts too: those mortgages were not recorded until years after their execution, and I do not know just when the deed was recorded.

Mr. Rasquin: When was it recorded?

Mr. Fordham: July 1915, I think. The mortgage was recorded in 1911, I think, not 1920, and the assignment was 1920.

Mr. Hawkins: I beg your pardon.

The Referee: The first serious question here is one of law, or the first question to be determined is one of law, namely, what is the nature of that instrument.

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Mr. Hawkins: Yes.

The Referee: That is the first thing to be determined, isn't it?

Mr. Rasquin: Well, upon the facts I should judge.

Mr. Fordham: Yes, I think so, upon the facts.

The Referee: Well, I mean that is one of the first questions that has got to be settled—the primary question.

Mr. Rasquin: That is the primary question, sir.

The Referee: I think I understand you now.

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Mr. Hawkins: I call your Honor's attention to the fact that many years elapsed between the dates of the execution of these instruments and their being made a part of the record in the County Clerk's office. My power of analysis may be very bad, but I fail to see why this action is brought to foreclose these mortgages if that deed was an absolute conveyance. The priority of liens, as I understand it, goes in effect and is reckoned from the

Case.

280 dates when the instruments are recorded; and if we succeed in establishing the fact that this deed was a mortgage, as the other mortgages, and if the mortgagees entered possession and despoiled the defendant Tesla's property, then we certainly ask for an accounting as to what they did with the property, the proceeds from it, and what disposition was made of them.

281 Mr. Mitchell: Mr. Referee, between the giving of the first and the second mortgage on October 28, 1905, Mr. Thomas G. Shearman made a loan in cash to Mr. Tesla of \$3,478.81, as security for which he took a bond and mortgage, which I present herewith. At the request of Mr. Tesla, the recording of the mortgage was delayed and it was not in fact recorded until February 24, 1915. No payment has ever been made on this bond or mortgage, and the full amount is now due, with interest at the rate of five per cent. The mortgage was a mortgage that matured on the 28th day of December, 1905; in other words, it was a two months' mortgage. This mortgage covered the same property as the property that was covered by the first mortgage and the mortgage tax was paid, and no action has been brought, and no proceeding for lawful recovery of
282 the sum secured by the bond and mortgage.

Mr. Rasquin: Well, as we understand, of course, the answer of Mr. Shearman has not been served upon the defendant Tesla; consequently, and I take it the rule to be, that no litigation or no question can raise or issue be tried here between the defendant Shearman and the defendant Tesla, and if there is a mortgage upon this property which is anterior to either the first or the second, the property can only be sold subject to that anterior lien. You cannot try the two issues in the one foreclosure action. If there is any difference, or if there is any

claim under the Shearman mortgage, that must be 283
determined in surplus proceedings, and cannot be
determined here.

Mr. Fordham: If your Honor please, I will suggest that the rule, as I recall it, is that the answer may be served on the other side at any time prior to twenty days before entry of judgment hereunder, or something like that, although I have not looked it up lately.

The Referee: Oh, yes.

Mr. Fordham: And I would suggest that we need not burden ourselves with that discussion at this point.

Mr. Rasquin: Very good. 284

Mr. Fordham: Counsel can serve his reply on the other side, if he desires to.

Mr. Rasquin: Well, may we then have it understood that we are now proceeding under the Civil Practice Act and not under the Code of Civil Procedure?

Mr. Fordham: I don't understand that we are proceeding on it.

Mr. Rasquin: Well, can we stipulate it?

Mr. Fordham: I have not kept pace with the Legislature's activity, my recollection is that this action was started before the date of that Act, and 285
under the rule it goes along under the Code.

Mr. Rasquin: But an order may be entered whereby the Act may apply, whereby the Civil Practice Act may apply.

Mr. Fordham: Well, unless we stipulate——

Mr. Rasquin: Well, can't we stipulate? However, I will withdraw that.

Mr. Fordham: Now, if the Court please, as I understand it, all the plaintiff has to do in the first instance is to make the ordinary formal proof of

286 a foreclosure action. That is what I now purpose to do.

The Referee: All right.

Mr. Fordham: I want as my first witness Mr. Hutchins. And before examining Mr. Hutchins, I would like to have it noted that I file and make a part of the record the formal proof in the foreclosure action, the affidavits dealing with the regularity of service and all that sort of thing, which I can enumerate.

Mr. Rasquin: Enumerate them serially, please.

Mr. Fordham: First is the affidavit of Francis S. Hutchins, verified September 21, 1921.

287 Mr. Hawkins: What is the object of that?

Mr. Fordham: That is the affidavit of regularity, which is used in a foreclosure, that is all.

Mr. Rasquin: As to service of the summons and complaint and no answer or demurrer has been interposed?

Mr. Fordham: Yes.

Mr. Rasquin: Well, isn't that part of your judgment roll?

Mr. Fordham: Yes, it is, but I want it noted here so it will be a part of the judgment roll.

288 And the next is the notice of trial, dated December 14, 1921, with an admission of due and timely service, by William Rasquin, Jr., Willard A. Mitchell and Cravath, Henderson, Leffingwell & DeGersdorff; affidavit of service made by George B. Ackerly on March 1, 1921, notice of appearance and waiver of the defendants Lester S. Holmes, Vincent T. Griffin and Waldorf-Astoria Hotel Company by R. A. Young, defendants' attorney, 120 Broadway, dated February 17, 1921; notice of appearance of the defendant Thomas G. Shearman, by Willard A. Mitchell, attorney, No. 141 Broadway; authorization for Mr. Mitchell to appear,

Francis S. Hutchins for Plaintiff -Direct.

executed by Thomas G. Shearman on February 17, 289
1921; notice of appearance and demand of the de-
fendant Dwight P. Robinson & Company, Incorpo-
rated, as successor to Westinghouse, Church, Kerr
& Company, by Cravath, Henderson, Leffingwell &
DeGersdorff, dated February 24, 1921; authoriza-
tion of said firm by said defendant Dwight P.
Robinson & Company, Incorporated, executed Feb-
ruary 21, 1921; notice of appearance and waiver
for the defendant Orange T. Fanning and Thomas
O'Donnell, by Thomas J. Rich, Jr., Port Jefferson,
dated February 15, 1921; notice of appearance and
waiver of the defendant John C. Wait, individually 290
and as receiver of Wait & Foster, by Howard G.
Wilson, 233 Broadway, dated March 7, 1921; affi-
davit of service verified by William K. Hammond,
Jr., on February 24, 1921..

(The foregoing papers filed in the case.)

FRANCIS S. HUTCHINS, being first duly sworn by
the Referee, testified as follows:

DIRECT-EXAMINATION BY MR. FORDHAM:

The Witness: My residence is Great River,
Long Island.

Q. Mr. Hutchins, you gave your name and resi- 291
dence, I think?

A. Yes.

Q. What is your business or profession?

A. I am a lawyer.

Q. Whereabouts?

A. At 120 Broadway, New York.

Q. And how long have you been engaged in the
practice of law?

A. Since 1902.

Q. In the City of New York during that whole
period?

Francis S. Hutchins for Plaintiff—Direct.

292 A. All of the time.

Q. What relations have you had and have you now with the plaintiffs, and what relations did you formerly have with Mr. Boldt, George C. Boldt, now deceased and what relations did you have and have you now with Waldorf-Astoria Hotel Company, if any?

Mr. Hawkins: I object to that, if your Honor please, as to form, and on the ground that it is too general.

The Referee: Oh, let him state the facts; I will overrule the objection.

293 Mr. Hawkins: Exception.

The Witness: Well, for many years prior to Mr. Boldt's death, which was in December, 1916, I was his personal counsel. In addition to that, I was attorney for the Waldorf-Astoria Hotel Company, which operated the Waldorf-Astoria Hotel, and I was for many years and still am the Secretary of the Waldorf-Astoria Hotel Company; and upon Mr. Boldt's death I became the attorney and am now the attorney for the two executors of his estate, who are plaintiffs here, and I am now managing from my own office that estate.

294 Mr. Fordham: I will first offer the bond and mortgage in the first cause of action. I offer a certain bond executed by Nikola Tesla, the defendant, on April 27, 1904, said bond being given to George C. Boldt to secure the payment of the sum of \$7,270.35 sixty days after the date thereof, with interest thereon at the rate of six per cent.

(Bond marked Plaintiffs' Exhibit No. 1.)

Mr. Fordham: I offer in evidence a certain mortgage dated April 27, 1904, executed by

Francis S. Hutchins for Plaintiff—Direct.

the defendant Nikola Tesla on the same day 295
to secure the payment to George C. Boldt of
the sum of \$7,270.35, and recorded in Suffolk
County Clerk's Office in Liber 374 of Mort-
gages at page 124 on the twelfth day of Sep-
tember, 1911 at ten o'clock A. M.

(Mortgage marked Plaintiffs' Exhibit No.
2.)

Q. Mr. Hutchins, do you know whether or not
any payment has been made of principal or inter-
est on account of the bond and mortgage just
offered in evidence?

Mr. Hawkins: That is objected to as incom- 296
petent, irrelevant and immaterial unless we
have the privilege of knowing whether the
gentleman does know in fact, as he might as-
sume just from corporation records.

Mr. Fordham: Well, I am trying to prove
that he knows.

The Referee: Do you know?

The Witness: Yes.

The Referee: Well, you may answer that.

Mr. Hawkins: Will your Honor permit me
an exception?

The Referee: I do not have to permit it. 297
You take it, you have a right.

Mr. Hawkins: I want to be very polite and
ask your permission.

The Referee: You do not have to be at all;
just live up to your rights.

Q. The answer is that you do know?

A. Yes, I do know.

Q. What is the fact in that regard?

A. There were no payments made.

Q. Have you computed the amount due on the

Francis S. Hutchins for Plaintiff—Direct.

298 bond and mortgage set forth in the first cause of action in the complaint herein?

A. Well, it has been done for me: I think it is right.

Q. Well, state it, please?

A. The amount of interest from April 27, 1904 to December 29, 1921, at six per cent. is seventeen years, eight months and two days, and that amount of interest is \$7,708.98, making a total of principal and interest of \$14,979.33.

299 Mr. Fordham: I offer in evidence a certain bond given by the defendant Nikola Tesla to the Waldorf-Astoria Hotel Company, a corporation of the State of New York, to secure the payment of the sum of \$5,379.82 two months after the date thereof, with interest at six per cent., and executed by the defendant Nikola Tesla on May 7, 1908.

(Bond marked Plaintiffs' Exhibit No. 3.)

300 Mr. Fordham: I offer in evidence a certain mortgage made by the defendant Nikola Tesla, dated May 5, 1908, being given by him to the Waldorf-Astoria Hotel Company, acknowledged by him on May 7, 1908 and recorded in Suffolk County Clerk's Office in Liber 374 of Mortgages at page 126 on the twelfth day of September, 1911 at ten o'clock in the forenoon.

(Mortgage marked Plaintiffs' Exhibit No. 4.)

Mr. Fordham: I offer in evidence a certain assignment of mortgage made by The Waldorf-Astoria Hotel Company to the plaintiffs herein dated November 17, 1920 and acknowledged on the same day and recorded in Suffolk County

Francis S. Hutchins for Plaintiff—Cross.

Clerk's Office in Liber 477 of Mortgages at 301
page 135 on the 20th day of December, 1920,
at ten o'clock in the forenoon.

(Assignment marked Plaintiffs' Exhibit No.
5.)

Q. Referring to the bond and mortgage just received in evidence, being the bond and mortgage set forth in the second cause of action in the complaint herein, do you know, Mr. Hutchins, whether any payment of principal or interest on the said bond and mortgage has been made?

A. None were; there were no payments.

Q. You know that no payment was made?

302

A. Yes.

Q. Have you computed the amount due for principal and interest on said bond and mortgage?

A. Yes.

Q. What do you find the amount of such to be in the total?

A. The principal is \$5,379.82, the interest, from May 5, 1908 to December 29, 1921 at six per cent., being thirteen years, seven months and twenty-four days, is \$4,406.07, making a total of \$9,785.89, principal and interest.

Q. And how much do you find due the plaintiffs for principal and interest on both causes of action?

303

A. \$24,765.22.

Mr. Fordham: I think that is all so far as I am concerned.

CROSS-EXAMINATION BY MR. RASQUIN:

Q. Mr. Hutchins, you say that you were the secretary of The Waldorf-Astoria Company during the time or at the time this second mortgage was made?

A. No, I should say no, Mr. Rasquin; I think it

Francis S. Hutchins for Plaintiff—Cross.

304 was about a year afterwards that I became the secretary.

Q. At the time you became secretary did you become possessed of this bond and mortgage, and did you know of it?

A. No; the bond and mortgage first came into my physical possession in the early part of 1915.

Q. So that you know nothing about the giving of the bond and mortgage at the time it was given over to the Waldorf-Astoria Company, do you?

A. Only what I have been told.

Q. And that is all?

305 A. Yes, sir.

Q. And does that same condition arise with regard to the mortgage to Mr. Boldt?

A. Yes, sir.

Q. So, up to 1915, you had no knowledge whatever concerning the bonds and mortgages which have just been put in evidence—personal knowledge?

A. Oh, I knew of their existence, yes.

Q. But you had no personal knowledge of them?

A. Yes, I believe I did.

306 Q. Well, what information had you,—what knowledge had you?

A. I knew of the existence of both of these mortgages, being told, I think, by Mr. Boldt, and also by the treasurer of the company, Mr. Alstrom.

Q. And did they give you any information as to why these mortgages were given?

A. Yes. My information was that—do you want it?

Q. Yes, go right on.

A. My information was that Mr. Tesla had been staying at the hotel for many years, had been a guest there, and that his weekly or monthly indebtedness was never or very seldom met in full.

Francis S. Hutchins for Plaintiff—Cross.

He would make payments on account. I was told 307
that the \$7,000. mortgage was given at a time when
he owed that exact amount as a balance to the
hotel; and similarly as to the second mortgage.

Q. And at that time did they tell you that the
mortgages had not been recorded until long after
they had been executed?

A. My recollection is that I was told that Mr.
Tesla had requested that they be withheld from
record. In fact, I think he told me that himself.

Q. He told you that himself, that he had re-
quested that they be withheld from record?

A. Yes.

Q. Now then, from 1915 then you have had per- 308
sonal knowledge of this entire matter, have you?

A. Yes, sir.

Q. You acted as the attorney for Mr. Boldt and
then you were secretary of the Waldorf-Astoria
Company?

A. Well of course in this matter I was acting as
attorney for the hotel company.

Q. Oh, you were then acting as attorney for the
hotel company?

A. Because this was an indebtedness to the hotel
company.

Q. I see.

A. Yes, I was attorney for the hotel company and
secretary.

Q. So that you knew—well, you said that in 1915,
Mr. Hutchins, was it in March or prior to March,
1915. that you got this information of these bonds
and mortgages?

A. I am quite sure it was in February, 1915, that
the bonds and mortgages had been sent to me; I am
quite sure of it.

Q. Let me refresh your recollection by referring

Francis S. Hutchins for Plaintiff—Cross.

310 to the letter attached to your reply, which is dated March 29, 1915?

A. Yes.

Q. Then you had had it some time—you had had them some time prior to that, had you not?

A. That is my recollection, that it was in February, 1915.

Q. When you had received these did you have any conversation with Mr. Tesla in regard to them?

A. Oh, yes.

Q. When?

A. In march, and possibly the latter part of February, 1915. Certainly in March.

311 Q. Were they in relation to these bonds and mortgages?

A. Yes; and in relation to his indebtedness to the hotel company, which I was commissioned to collect, if I could.

Q. Now in relation to these bonds and mortgages, will you tell the Court what conversation you had in regard to them?

A. Well, the thing that sticks definitely in my mind is that he said he was unable to pay them and he did not pay anything on them and that he was without funds, he could not pay them.

312 The Referee: You are referring now to the \$7,000. and the \$5,000. mortgages?

The Witness: I am. And I ought to enlarge that, because there was an outside unsecured claim. My recollection is that the total indebtedness of Tesla at that time to the hotel was nearly \$20,000., which he admitted to me he could not pay.

Q. Was that only one conversation, or were there more than one

Francis S. Hutchins for Plaintiff—Cross.

A. My recollection is that I had about three or 313
four con-talks with Tesla hoping to make collec-
tions.

Q. In the hope of collecting this money which you
claimed was due under these mortgages, is that
right?

A. Well, I want to be very exact with you, Judge.
I think I was after the whole sum, and of course,
if I could have obtained that, it would have paid
these mortgages, and the property would have been
free.

Q. You are no different from all other lawyers,
I take it; you want to get all you can get?

A. Yes; so that I was not just after the specific 314
amount.

Q. But these two mortgages were part, were they
not, of your conversations, and their payment?

A. Yes.

Q. Is that right?

A. Oh, yes.

Q. Well, did Mr. Tesla pay them?

A. No, sir.

Q. Well, did he give you any evidence of pay-
ment or any evidence of further payment of any
kind?

A. No, sir.

Q. Well, didn't he execute a deed to you or to
the plaintiff or to Mr. Boldt? 315

A. Yes, and a bill of sale.

Q. And a bill of sale?

A. Yes.

Q. And by the way, have you got that bill of sale
with you?

A. I think Mr Fordham has it.

Mr. Fordham: I suppose this is the one (pro-
ducing paper), dated March 30, 1915. I think
that is the one; and then here is another one
that you may want (handing papers).

Francis S. Hutchins for Plaintiff—Cross.

316 Q. I am showing you a bill of sale made by Nikola Tesla to William N. Hallock "of all and several his chattels located in the brick factory building near skeleton tower on premises owned by him", being dated March 30, 1915, conveying or pretending to convey quite a number of articles, and executed before you as a witness, acknowledged March 30, 1915. Was that one of the papers which he handed to you at that time?

A. Yes, sir.

Q. And at that time you were the secretary of the Waldorf-Astoria Company, were you?

317 A. Yes, sir.

Mr. Rasquin: I offer it in evidence.

(Bill of sale marked Defendants' Exhibit A.)

Q. Now, I show you another paper made by William N. Hallock to the Waldorf-Astoria Hotel Company, a bill of sale bearing date April 8th, 1915, acknowledged April 8th, 1915, purporting to sell the same articles as mentioned in the previous bill of sale?

A. Yes.

318 Q. And that was given to you by Mr. Hallock, was it, for the company?

A. Well, it was prepared by me subsequent to receiving the bill of sale from Tesla to Hallock, and then I drew a bill of sale from Hallock to the hotel company and sent it up to Hallock and asked him for his signature, and he evidently signed it and sent it back to me.

Mr. Rasquin: I offer that in evidence.

(Bill of sale marked Defendants' Exhibit B.)

Q. Now, who was the William N. Hallock mentioned in those two exhibits?

Francis S. Hutchins for Plaintiff—Cross.

A. He was a private secretary to Mr. Boldt.

319

Q. At that time was Mr. Tesla in any way indebted to him?

A. To Mr. Hallock?

Q. Yes?

A. Not to my knowledge.

Q. And it was for the purpose of securing, was it not, the further indebtedness of Mr. Tesla to Mr. Boldt or the Waldorf-Astoria Company that these two bills of sale were drawn by you?

A. No, not to secure them.

Q. Well now, tell us what they were to be given for?

320

A. Why, it was absolutely the only asset which Tesla had, according to his statement to me, and while we did not want the property it was the only thing he had to give us.

Q. Yes. Now, at that same time was this deed given to you by Mr. Tesla?

A. Yes.

Mr. Rasquin: I offer in evidence deed dated March 30th, 1915, made by Nikola Tesla to Lester S. Holmes, describing the premises as in the complaint, acknowledged March 30th, 1915, recorded in the office of the County Clerk of Suffolk County, July 21, 1915.

321

(Deed marked Defendants' Exhibit C.)

Q. Who is the Lester S. Holmes mentioned in that deed?

A. He was an attorney at that time in my office, a law clerk in my office.

Q. And had any arrangements been made at all for him to purchase this property from Mr. Tesla?

A. Oh, no.

Q. How did it come that the name of Lester S. Holmes was inserted in that deed?

Willard Mitchell for Defendant—Direct.

322 A. My recollection is that I feared a merger if I took the title in the name of the Waldorf-Astoria Hotel Company, so I took it in the name of Holmes, who would have no real beneficial interest in it, and who in turn gave a deed, as I remember it, to another employee of mine, Vincent T. Griffin; and Griffin in turn gave an unrecorded—I think, gave an unrecorded deed—to the hotel company, in the event of his death.

Q. Have you those deeds?

A. I think they are here.

Mr. Rasquin: Won't you produce them, Mr. Fordham, please?

Mr. Fordham: I will, if I can find them.

(For the accommodation of Mr. Mitchell, the examination of Mr. Hutchins was suspended temporarily.)

WILLARD MITCHELL, being first duly sworn as a witness, testified as follows:

The Witness: I am attorney for Thomas G. Shearman, one of the defendants in this action, and I offer in evidence the bond given by Nicola Tesla to Thomas G. Shearman under date of October 28, 1905, bearing interest at the rate of five per cent. per annum and maturing December 28, 1905.

324 Mr. Rasquin: I object to that as incompetent, irrelevant and immaterial, and not part of the issues; on the further ground that the defendant Shearman has not served a copy of his answer setting up his claim in this action upon the defendant Tesla, against whom the foreclosure is addressed; and on the further ground that it is an improper proof in this action in the form in which the action has been brought,

Willard Mitchell for Defendant —Direct.

namely, for the foreclosure of a mortgage held by the plaintiffs. 325

The Referee: You do not object to the order of proof?

Mr. Rasquin: Oh, no.

The Referee: Judge Rasquin, your objection may be good, but at this time I am going to take the formal proof, subject to a motion to strike out.

Mr. Rasquin: Exception.

The Witness: I offer to serve upon Judge Rasquin a copy of the answer.

Mr. Rasquin: Oh, no. That may raise a very serious issue here. This may raise a very serious issue on this mortgage, Mr. Mitchell, and I doubt — of course, on the order of proof, your Honor may take this proof now, but I must say that if Mr. Mitchell is going to give any testimony, his cross-examination should be reserved to me until some future time. 326

The Referee: Surely, all rights reserved, because I feel that I am not sufficiently acquainted with all the circumstances to rule finally upon that matter. No harm will result if all rights are reserved.

(Bond offered by Mr. Mitchell marked Defendants' Exhibit D.) 327

The Witness: I also offer in evidence the mortgage which accompanied that bond made by Nikola Tesla to Thomas G. Shearman for the same amount, bearing the same date and recorded in Suffolk County Clerk's Office in Liber 421 of Mortgages, page 161, on the 24th day of February, 1915 at ten o'clock A. M. This mortgage bears on its face the stamp, showing that the recording tax of \$17.50 was paid at

Francis S. Hutchins for Plaintiff—Cross

328 the time of recording, and such tax was in fact paid.

(Mortgage offered by Mr. Mitchell marked Defendants' Exhibit E.)

Mr. Hawkins: Where was that recorded?

The Witness: Suffolk County, in Liber 421 of Mortgages, page 161, on February 24th, 1915.

329 No part of this mortgage has been paid, no action has been brought and no proceedings have been had at law or otherwise for the recovery of the sum due. I have made a computation showing the amount due by this mortgage. The interest on \$3,478.81 for two months at five per cent. amounts to \$28.99. The total amount due at the maturity of the mortgage was therefore \$3,507.80. The interest on that sum from December 28th, 1905 to December 28th, 1921 for sixteen years at six per cent. amounts to \$3,367.50; making a total of \$6,875.31.

330 Mr. Rasquin: If your Honor please, I take it this is subject to my motion to strike out later, and for any further cross-examination that I may desire to make of the witness?

The Referee: Yes.

Mr. Rasquin: You will be ready at any time, Mr. Mitchell?

Mr. Mitchell: Yes.

FRANCIS S. HUTCHINS, resumed.

CROSS-EXAMINATION BY MR. RASQUIN (CONTINUED):

Mr. Rasquin: Will you read the last answer of the witness, please.

(The answer referred to was read.)

The Witness: May I add to that answer?

Francis S. Hutchins for Plaintiff—Cross.

Mr. Rasquin: Yes.

331

The Witness: Upon examining the papers I find a deed from Holmes to Griffin, but I do not find a deed from Griffin to the hotel company. It may be in my office, but I am not absolutely sure that it was actually executed. It should have been.

Q. Well then, I now show you this deed from Lester S. Holmes to Vincent T. Griffin, bearing date November 16, 1920, acknowledged November 16, 1920 and recorded in the Suffolk County Clerk's Office, in Liber 1015 of Deeds, page 11, on December 23rd, 1920, and ask you if that is the deed which you referred to in your testimony?

332

A. Yes.

Mr. Rasquin: I offer it in evidence.

(Deed marked Defendants' Exhibit F.)

Q. Now, you say that you are under the impression that a deed was executed by Mr. Griffin to the Waldorf-Astoria Company?

A. Waldorf-Astoria Hotel Company.

Q. But you have been unable to find it?

A. I do not find it here among the papers.

Q. It may be in your office?

A. Yes.

333

Q. Do you know whether or not it was executed?

A. I do not absolutely know that. Mr. Young in my office, my junior partner, had charge of that and would have drawn it.

Q. But this deed from Tesla to Holmes and the deed from Holmes to Griffin, together with the deed from Griffin to the Waldorf Astoria Hotel Company, were all taken in view of Mr. Tesla's indebtedness to the Waldorf-Astoria Hotel Company, is that not so?

Francis S. Hutchins for Plaintiff—Cross.

334 A. Yes.

Mr. Fordham: Wait a minute, and let us see if that is so or not.

Mr. Rasquin: Well, he says yes.

Mr. Fordham: I don't know whether he means that. Pardon me, let me hear the question.

(The question was read.)

Mr. Fordham: Taken in view of his indebtedness?

Mr. Rasquin: Yes, in relation to his indebtedness under these mortgages.

335 The Witness: No, oh no.

Q. Well, what was it taken for, then?

A. The deed from Tesla to Holmes, represented, according to Mr. Tesla, the only asset that he had which would go in diminution of his indebtedness to the hotel company, which, at that time, as I remember it, was about \$19,000. Now, neither Griffin nor Holmes have any beneficial interest in it, they are pure employees of mine, and if anything were recovered it would redound to the benefit of the hotel company.

336 Q. In other words, these deeds were taken for the benefit of the Waldorf-Astoria Hotel Company, Incorporated, is that not so?

A. Yes.

Q. And did the Waldorf-Astoria Hotel Company assume the ownership of this property under those deeds?

A. Well, the immediate act of possession, as I remember it, shortly after the filing of the deed, which I withheld at Mr. Tesla's request until sometime in July, 1915, I sent down to the property and had signs put up to the effect that this was

Francis S. Hutchins for Plaintiff—Cross.

the property of Lester S. Holmes, 27 Pine Street, 337
which was then my office.

Q. Well, Lester S. Holmes was simply owner of
record while the Waldorf-Astoria Company was
really the equitable owner, isn't that so?

A. I should say yes.

Q. You were the attorney for the company?

A. Yes.

Q. There wasn't any question about it, Mr.
Hutchins?

A. No.

The Referee: May I ask just a question here?
I do not want to interrupt unduly, but does 338
that sum of nineteen thousand or twenty thou-
sand dollars that you mentioned as the total
indebtedness of Tesla to the Waldorf Company
include these two mortgages that we are talk-
ing about?

The Witness: Yes.

The Referee: In other words, the two mort-
gages representing the principal sum of about
Twelve thousand dollars, then he owed in addi-
tion to that an unliquidated claim making up
the \$20,000.?

The Witness: That is my understanding.

Q. Now, when you say the two mortgages, that
included the mortgage to Mr. Boldt, is that not
right? 339

A. Yes.

Q. So that when I have asked you concerning
the Waldorf-Astoria Hotel Company you have in-
cluded Mr. Boldt's interest in that all along, have
you not, as to his mortgage?

A. Well, I do not remember any time that I
did not.

Q. Now, you are an attorney, and that embraced,

Francis S. Hutchins for Plaintiff—Cross.

340 did it not, the interest of Mr. Boldt as represented by his mortgage?

Mr. Fordham: What embraced?

Mr. Rasquin: The deed, this deed that was delivered. In accepting this deed and preparing these bills of sale, the indebtedness of Mr. Tesla as represented by his mortgage to Mr. Boldt was included in the indebtedness which you have just mentioned to the Referee.

341 Mr. Fordham: If your Honor please, it seems to me—I do not wish to be captious at all, but it seems to me that that question is one which is calculated to lead us into error about what a deed embraces. There is no objection at all, as I understand it, to the witness saying and I think he has said, that there were two mortgages, being one to Boldt and one to the Hotel Company and that there was a further indebtedness to the Hotel Company, and the two mortgages were prepared and a deed was given, but when it comes to interrogating him as to what is embraced in a deed, I think we are——

Mr. Rasquin (interrupting): I will withdraw the question, then, and ask this one.

342 Q. Your negotiations in securing these bills of sale and these deeds included the mortgage held by Mr. Boldt?

A. No. Mr. Boldt was the president and the owner——

Q. (Interrupting.) Won't you be good enough to answer? A. I think I have been.

Q. Don't you understand my question?

A. No, I don't think that I do.

Q. Very good. Now, you say there was some-

Francis S. Hutchins for Plaintiff—Cross.

thing like \$19,000. due at the time these bills of sale 343
and this deed to Holmes were given?

A. Yes, sir.

Q. That embraced Mr. Boldt's mortgage, did it
not?

A. Yes, sir.

Q. And it embraced the mortgage held by the
Waldorf-Astoria Company?

A. Yes, sir.

Q. And it also embraced a separate indebtedness?

A. Yes, sir.

Q. It did not in any way embrace the mortgage
of Mr. Shearman, did it?

A. No, although I think that grew out of an in- 344
debtedness of Tesla to the Waldorf.

Q. Mr. Shearman is here represented by an
attorney and will have that out afterward. Now,
you told us that you posted signs up there that
Lester S. Holmes was the owner?

A. Yes, sir.

Q. Now then, is that all you did?

A. There was a good deal of depredation done
there.

Q. Well, let us hear exactly what it was, please?

A. I found when I went down that the windows 345
were broken, that there was, I think, as I remember
it, the door was smashed in and the thing had fallen
into a good deal of disrepair, and I was told by
someone in the neighborhood—

Q. (Interrupting.) Well now, we won't have
that.

Mr. Rasquin: I move to strike that out.
Well, he did not say what he was told.

Q. Now, the—

Mr. Fordham (interrupting): If your Honor
please, Mr. Hutchins hardly began to answer
the question. Let him go on now and tell.

*all in the
deed*

*Took
possession
lawyer*

Francis S. Hutchins for Plaintiff—Cross.

346

Mr. Rasquin: I asked him what he did, and he was going to tell us what someone else told him.

The Referee: State what you did.

The Witness: May I go on then?

The Referee: Go right on.

347

The Witness: Having found this situation, at my suggestion the chief engineer of the Waldorf employed a woman named Robinson, I think, who, I think, was the station agent down there, as a caretaker. My recollection is that the hotel paid her eight dollars a month, but we found she was not able to keep the marauders out, and that lathes and other tools and drill presses were being stolen, and machinery.

Q. Go right on.

Mr. Fordham: What did you do, Mr. Hutchins?

348

The Witness: Well, I had—my primary object in putting the sign up was in the hope that someone would come and make an offer on the property, and we had a number of abortive suggestions for the purchase of the property. One man wanted to put a pickle factory down there. And none of those developed.

Q. Well, as I understand then, after you posted this property you put a woman in charge, is that it?

A. Well, we asked her to keep a supervisory eye—she was not actually there.

Q. She wasn't actually on the place?

A. I understand that she was the station agent.

Q. Station agent?

A. I think so.

Francis S. Hutchins for Plaintiff—Cross.

Q. At Rocky Point?

A. I think so. 349

Q. And was this fenced off, was this property fenced off at all?

A. I am not sure.

Q. How long was the woman there?

A. I am not sure as to that.

Q. Well, do you remember her name?

A. I think it was Robinson.

Q. Robinson?

A. I think so.

Q. And as I understand, the hotel company paid her?

A. So I understand. 350

Q. And who succeeded her?

A. As a caretaker?

Q. Yes?

A. No one to my knowledge.

Q. Then the property was left unprotected?

A. Yes.

Q. What did the chief engineer do down there?

A. Well, he was the man who put the signs up. Now, I think he was the man who made the arrangements with this caretaker. What else he did I do not know.

Q. Is he still employed by the Waldorf-Astoria Company? 351

A. Oh, yes.

Q. What is his name?

A. E. C. Bingham.

Q. Can he be found up at the company's office?

A. Oh, yes, he is there all the time.

Q. Now, did I ask you, how soon after you recorded these deeds or received these deeds, that you put this woman in possession?

A. Well, it would be a mere guess.

Q. Did the company at any time do anything to

Francis S. Hutchins for Plaintiff—Cross.

352 prevent these chattels or personal property from being stolen from out of these houses or buildings in which they were or taken off the premises?

A. Yes, I remember on one occasion Bingham came down and reported, as he put it, and said "half the garages in Long Island are being supplied out of that property with tools", and told me he was going to motor down there the next Sunday and board it up, and I think he did board it up where some windows or doors had been broken out.

Q. Are the buildings still there?

A. Yes.

Q. All of the buildings?

353 A. Well, I don't know whether you refer to a steel tower as a building. That was an erection. But the building is still there. The steel tower is not there.

Q. When was the steel tower taken down?

A. In the latter part of 1917.

Q. Who took it down?

A. The Smiley Steel Company, Incorporated, I think.

Q. At whose request?

A. Mine.

Q. And you represented, of course, the Waldorf-Astoria Hotel Company, the owner of the property?

354 A. Yes, I am the attorney.

Q. But when you say I you always mean, don't you, in this respect, the Waldorf-Astoria Company, nothing of your own personal act?

A. Well, let us differentiate as we go along.

Q. Were they paid anything for it, or did you receive pay from them?

A. The arrangement with the Smiley Company was substantially as follows: they were in the nature of salvage people, and they agreed to pay the hotel company Fifteen hundred dollars as an

Tower only

Francis S. Hutchins for Plaintiff—Cross.

initial payment, and in addition to that they were 355
going to pay the hotel company sixty per cent. of
the net recovery of whatever was down there, what-
ever they could utilize and sell, they retaining forty
per cent. I got in touch with the Smiley Company
through General Goethals, and I employed General
Goethals' firm to act as sort of auditors in the
matter, because Smiley had confidence in him, and
I did. I did not want to be checking up every
little sale they might make, and the upshot of it
was that Fifteen hundred dollars was paid to the
hotel company, in addition to which it received
\$249.20 as its sixty per cent., less what we paid 356
Goethals for his services.

Q. Was that Seventeen hundred dollars net the
total amount which you received for this steel tower
that was on these premises?

A. I think it was Seventeen hundred forty-nine
dollars plus.

Q. Now, at that time did you send any word to
Mr. Tesla that this tower was to be taken down or
that you had sold it or were going to sell it?

A. Oh, no.

Q. Did not confer with him at all on the subject?

A. Absolutely not, although I received a letter
from him. 357

Q. Did you have any conversation with him in
regard to the sale of that tower?

A. Absolutely not.

Q. Did you receive any word from him in regard
to a proposition which he had for the sale of that
tower?

A. I have absolutely no recollection of any such
thing.

Q. Did you receive a letter from Mr. Tesla at
that time, or about that time?

A. Yes, sir.

Francis S. Hutchins for Plaintiff—Cross.

358 Q. Was it before or after the tower had been taken down?

A. My recollection would be that it was about the time when Smiley was down there.

Q. Have you that letter?

A. Yes.

Q. Will you produce it?

A. Mr. Fordham has it. I might say that the letter, as I remember it, was addressed to the Hotel Company and came to my hands.

Mr. Fordham: There they are, Mr. Rasquin (handing papers).

359 Q. Is this the letter which you received at that time?

A. Yes. It was transmitted to me from the hotel under date of July 13, 1917.

Mr. Rasquin: I offer it in evidence.

(Letter referred to marked Defendants' Exhibit G.)

Q. Then you replied to that letter, Mr. Hutchins, did you?

A. Yes, sir.

Q. And have you that reply there?

360 A. Yes (handing paper).

Mr. Rasquin: I offer in evidence Mr. Hutchins' reply to that letter.

(Letter marked Defendants' Exhibit H.)

The Witness: I do not know that it is of importance, but you asked me what I did in connection with the property.

Q. Go right ahead.

A. And it recurs to my mind now, that we offered it, we tried to get the Government to take it in connection with Yaphank.

Francis S. Hutchins for Plaintiff—Cross.

Q. You were not as successful as Yaphank was, 361
were you? A. No. I had quite a little negotiation
with the War Department in regard to it.

Q. I meant to ask you earlier in my examination,
Mr. Hutchins: the Waldorf-Astoria Company as
mentioned as a defendant in this action is the same
company to which the mortgage was made, is that
not so?

A. Yes, sir.

Q. And the same one that you have been referring
to all along?

A. Yes, sir.

Q. Well, it is in existence to-day? 362

A. A mere shell.

Q. A mere shell?

A. Yes. The present operating company of the
hotel is Waldorf-Astoria, Inc., a different corpora-
tion.

Q. Is it the successor to the defendant in this
action?

A. I should say not.

Q. When did that transfer take place from one
company to the other?

Mr. Fordham: If the Court please, I do not
know that it appears that any transfer has
taken place. There is another company. 363

Mr. Rasquin: Well, I will withdraw it, if
there is any objection made.

Q. Did the Waldorf-Astoria Company, Inc., suc-
ceed to the Waldorf-Astoria Hotel Company?

A. No, I should say not.

Q. Now, were any telegrams handed to you from
the hotel company sent by Mr. Tesla to them, or any
other letters than what you have produced?

A. I do not remember any telegram to the hotel
company. I remember a telegram to the Smiley
people.

Francis S. Hutchins for Plaintiff—Cross.

364 Q. The Smiley people?

A. Yes, sir.

Q. Have you that telegram?

A. I think Mr. Fordham has a copy of it.

Mr. Fordham: Is that it? (handing paper).

The Witness: Yes, that is the one.

Mr. Fordham: Here is the reply. You may want that, too (handing paper).

Mr. Rasquin: Oh, yes, we want to get it all in. I have never seen these, so we will be interested in reading them. I offer in evidence a letter from the Smiley Steel Company, Inc., to Mr. Hutchins, dated July 16, 1917.

365—

(Letter marked Defendants' Exhibit I.)

Mr. Rasquin: I also offer in evidence letter written by J. B. Smiley to Mr. Hutchins, dated July 13, 1917.

(Letter marked Defendants' Exhibit J.)

Q. Mr. Hutchins, both of those letters were turned over to you by the Smiley Company, were they not, or by the Waldorf-Astoria Company,—which?

A. Are not the letters directed to me?

Q. Yes, they are directed to you.

366

A. Then they would not be turned over to me.

Q. Yes, I beg your pardon. I withdraw that. Now, did the Smiley Company only take away the steel tower, or did they take away any of the buildings or wood connected with the tower, if there was any wood there?

A. Well, the building is still there, that I know.

Q. You were down there how late, how recently?

A. Oh, I should say I have been there within—I have motored by it and seen it within a year or eighteen months, and I have received tentative but useless and abortive offers—

Francis S. Hutchins for Plaintiff—Cross.

Q. (Interrupting.) We won't have any abortions committed here, please. Did you ascertain or have you endeavored to ascertain what became of the machinery that was in the building at the time that you got these bills of sale or this bill of sale? 367

A. Well, I am satisfied and was so informed by Bingham that a great deal that was mentioned in that bill of sale was not there when we took it. I, of course, would have to rely on what was reported.

Q. That is, of course, your information from Mr. Bingham?

A. Yes.

Q. Did Mr. Bingham go down there?

A. Yes. 368

Q. Now, other than what you have testified, that the doors were nailed up, you did nothing to prevent anyone taking any of this machinery, did you?

A. I do not think of anything except the employment of the caretaker.

Q. Well, you have already testified to that. I meant what you have already testified, you know of nothing that the company has done to prevent the taking away of this machinery down there?

A. No.

Q. Is there any machinery on the place now?

A. I do not think there is.

Q. Did you insure it at all? 369

A. At one time we did.

Q. When?

A. I should say in July of 1915, when we took the property over. My recollection is that we put \$5,000. insurance on it.

Q. Was that on the personal property or on the buildings?

A. That I don't know.

Q. In whose name was the policy written, that is who was the insured?

Francis S. Hutchins for Plaintiff—Cross.

370 A. As I remember, the hotel company.

Q. You haven't got that—if you have that, I would like to have it, but if you haven't, it is not material?

A. Well, I know I haven't it, because we subsequently cancelled it and did not carry it any more.

Q. Have you any other letters from Mr. Smiley or anyone in connection with the removal and taking down of that tower?

A. Yes.

Q. Well, I will ask you to produce them?

A. I have a copy of the contract we made with Smiley.

371 Q. Well then, if you have that, let us take it, please?

A. Yes (handing contract).

Q. I have not read this, but I think we might as well. I will ask you about it. I am showing you a copy of a letter addressed to the Waldorf-Astoria Hotel Company, bearing date June 4, 1917, signed by the Smiley Steel Company, and which purports to be a contract to have purchased from you a steel tower, machinery and equipment in brick building on said premises?

A. Yes.

372 Q. And I ask you if that is a copy of the contract with the Smiley Company which you entered into?

A. Yes, sir.

Mr. Rasquin: I offer that in evidence.

(Contract marked Defendants' Exhibit K.)

Q. There are no signatures to that, Mr. Hutchins, but I take it that it was executed and the approval was executed in due form of law?

A. Yes.

Q. Now I show you a copy of letter dated July

Francis S. Hutchins for Plaintiff—Cross.

12, 1917, addressed to W. H. Clancey, Shoreham, 373
Long Island, signed by Baldwin & Hutchins. Did
you send that letter to Mr. Clancey?

A. My recollection is that this is a copy of a
wire.

Q. Or of a wire or whatever it may be?

A. Yes, sir, Clancey being the Smiley man on the
job.

Mr. Rasquin: I offer that in evidence.

(Copy of telegram marked Defendants' Ex-
hibit L.)

Q. I show you a copy of letter dated December 7, 374
1917, addressed to George C. Boldt, Jr., Esq.,
Waldorf-Astoria, signed by Francis S. Hutchins.
Did you send that letter to Mr. Boldt?

A. Yes, sir.

Mr. Rasquin: I offer it in evidence.

(Letter marked Defendants' Exhibit M.)

Q. Now, the George C. Boldt, Jr., mentioned in
that letter, or to whom that letter was addressed,
is the George C. Boldt, Jr., one of the executors of
George C. Boldt, and one of the plaintiffs in this
action?

A. Yes, sir. 375

Q. Now, have you produced all of the letters
which you have from the Smiley people in regard
to the taking down of this tower? That is, have
you got any more?

A. I think I have somewheres,—I haven't it here
—their final report on which this Boldt letter is
based. I do not think of any other letters. Now,
that may have been a Goethals report, I am not
sure.

Francis S. Hutchins for Plaintiff—Cross.

376 Q. Well, whatever it is, I take it that you will produce it at the next hearing?

A. I will be very glad to.

Q. In the letter of Smiley, that contract which mentions machinery and equipment, does that mean in the tower alone, or does it mean the machinery in the other building?

A. I do not really remember, Judge.

Q. Well, you know, Mr. Hutchins, there were quite some experimental machines in this building, weren't there, or don't you know?

A. No, I think not at this time; no, there wasn't much left.

377 Q. At the time that the Smiley people came in?

A. Or at the time that we went in.

Q. You do not recall, and from your personal knowledge, you do not know?

A. Well, I do know that there were very little there.

Q. You went down there, did you?

A. Oh, yes.

Q. You went down there, you went through the buildings?

A. Yes.

378 Q. And you saw some experimental machinery there, did you?

A. Yes.

Q. And the time that this bill of sale was made, did you go down there to verify?

A. No.

Q. Well, who gave you those articles, or the list of those articles?

A. I think Mr. Tesla.

Q. Well, did you make any attempt to verify it?

A. No, not at that time.

Q. Well, did you afterwards?

A. Bingham told me that a great many of the

Francis S. Hutchins for Plaintiff—Redirect.

things that were mentioned on that list were not there. 379

Q. Can't you recall exactly how soon after the bill of sale was given that Mr. Bingham told you that?

A. I should say within a few months, in that same year.

Q. Well, it was after you recorded the deed, I take it?

A. I am not sure.

Q. Do you know a Mr. Boland connected with the hotel?

A. Yes.

Q. What relation had he with the Waldorf- Astoria? 380

A. Mr. Boland is the attorney for the Hotel Men's Association, and he did a great deal of collecting for the hotels and this claim against Tesla had been in Mr. Boland's office and also Mr. Mitchell's office in behalf of the hotel before it came to me.

Q. And you cannot recall whether or not this list was given to Mr. Boland?

A. I think you are right, Judge. I think Tesla gave it to Boland and Boland gave it to me when all the papers came down. I think that is true. 381

Mr. Rasquin: Well, at the present time then I will say that I think that is all. I may have something further to say. I don't know. I suppose Mr. Hutchins will be present at the future hearings.

The Witness: I am always available.

REDIRECT-EXAMINATION BY MR. FORDHAM:

Q. Mr. Hutchins, you are acquainted with the defendant, Nikola Tesla?

A. Oh, yes.

Francis S. Hutchins for Plaintiff—Redirect.

382 Q. And he is here present to-day?

A. Yes.

Q. He has been here during your entire examination?

A. Yes.

Q. You recall, do you not, that early in your examination as witness for defendant Tesla to day you were interrogated about a conversation or conversations with him?

A. Yes.

Q. In March, 1915?

A. Yes.

383 Q. Will you state as fully as you can what, if anything, was said by you or by him during those conversations with reference to the giving of this deed and this bill of sale which the defendant Tesla has offered in evidence?

384 A. Mr. Tesla came to my office, which was then at 27 Pine Street, in response to one or two letters which I had written him, stating that the matter of his indebtedness to the hotel company had been placed in my hands for collection, and that my instructions were somewhat imperative; and he told me that he was then entirely unable to make any payment to the hotel company. I asked him as to what his other liabilities were, and he told me that there were judgments against him, they were extensive; he told me, I think, of his indebtedness to Mr. Mitchell. He told me, however, that he was hopeful or had been hopeful that a very enormously important negotiation, I think, involving something like One hundred million dollars, would have gone through if it had not been for the fact that Mr. Morgan, the present J. P. Morgan, had not been shot about that time. And he also, as I remember it, told me that he had recently made a rather unimportant invention, as he char-

Francis S. Hutchins for Plaintiff—Redirect.

acterized it, of a fountain, which he had sold, I 385
think, to the Tiffany Studios; and that, as I re-
member, that was, so he told me, the only income
that he had recently received. I told him that the
account at the hotel was extremely unsatisfactory,
and that I had received insistent demands that it
be liquidated; and he told me that the only pos-
sible asset that he had was this piece of property
down at Shoreham. Well, I pointed out that we
already had mortgages on this, but I also pointed
out that it would cause us a certain amount of
trouble to foreclose the mortgages, and suggested
to him that he give us a deed and bill of sale in
order to prevent the necessity of that, and he as- 386
sented to that, and I prepared the bill of sale and
the deed. He then stated, as I remember it, that
he wanted to submit it to some attorneys of his,
and he took it away and brought it back a day or
two afterwards, and I think, though not at the
time he took them away, he was very urgent that
they be held off the record for a period of three or
four months, during which he hoped this negotia-
tion which he had pending, so he said, might be
consummated; and I prepared and signed in behalf
of Mr. Boldt and the hotel the letter which is
attached to the reply and delivered it to him and
took the deed and the bill of sale and handed him 387
two one dollar bills.

Mr. Fordham: I would like to offer in evi-
dence the letter referred to by the witness and
attached to the reply and have it considered
as marked our exhibit of the next number.

(Letter referred to received as Plaintiffs'
Exhibit No. 6.)

Q. Now, Mr. Hutchins, you had perhaps two or
three conversations with the defendant Tesla about
the time to which you have been referring?

A. Yes.

Francis S. Hutchins for Plaintiff—Recross.

388 Q. Along in March or early April, 1915?

A. I think it was all in March.

Q. Now, I ask you carefully to search your memory as to those conversations and tell the Court whether during those conversations, or for that matter at any other time in any conversation at which you were present, anything was said either by you or by the defendant Tesla, or in the presence of either, with reference to the deed offered by the defendant Tesla in evidence and the bills of sale offered by the defendant Tesla in evidence being considered in any other way than as a deed and bills of sale absolute in all respects?

389 A. Absolutely not; absolutely no, never.

Mr. Fordham: Anything further?

RECROSS-EXAMINATION BY MR. RASQUIN:

Q. I understand this conversation, you say, took place around the latter part of February or the early part of March, and——

Mr. Fordham: I do not think he said that.

Q. Or in March?

A. March, 1915, yes.

Q. Or in March, 1915?

390 A. Yes, sir.

Q. And the reason why he stated to you that he could not consummate this deal was by reason of Mr. Morgan's having been shot?

A. That was my recollection.

Q. Now, you say that never in all your conversations with him up to the time of the delivery of the deed had anything been said to him by you of paying him any money?

A. No.

Q. And you now say you gave him two hundred dollars?

Francis S. Hutchins for Plaintiff—Recross.

A. No, I gave him two dollars.

391

The Referee: Two one dollar bills.

Q. I see. And up to that time you had said nothing to him about paying him any money

A. No, that was merely law school experience.

Q. That was law school experience, for which you gave him two dollars consideration expressed in the bills of sale, is that it?

A. Yes.

Q. I thought you said two hundred dollars?

A. No.

Q. Did you in any of your conversations say anything to Mr. Tesla about bankruptcy?

392

A. Yes.

Q. What did you say?

A. He told me of the various claims that were against him, various judgments, and I said, "well, rather than be harrassed by this thing, why don't you go into bankruptcy", or something to that effect. And he said, oh, that would be the last thing he would want. He was extremely optimistic about being able to clean up all of his indebtedness within a very short time, certainly by July, when the deeds were to be recorded if he did not pay it.

Q. At that time had the judgment, or did he say anything to you about a judgment having been obtained by Mr. John C. Wait individually and as receiver of the firm of Wait & Foster?

393

A. No, sir.

Q. Didn't say any thing to you about that, did he?

A. No, he did not.

Q. Did he tell you that Mr. Wait had been or was then his counsel?

A. Yes, I think he told me that. I think he was the man he wanted to show the deed and the bills of sale to.

Francis S. Hutchins for Plaintiff—Recross.

394 Q. Did he say anything to you about Mr. George H. D. Foster being his counsel or acting for him at that time?

A. I do not remember.

Q. Did you know Mr. John C. Wait or Mr. George H. D. Foster?

A. No, sir.

Q. Then you did not know that they were the members of the firm of Wait & Foster?

A. No, sir.

Q. Well, did he say anything to you about any other judgment having been obtained against him at that time?

395 A. Yes, my recollection is that he told me of the judgment that the Westinghouse, Church, Kerr Company had gotten for the machinery down there at Shoreham.

Q. Was that a judgment at that time?

A. Well, I am not sure. He either told me that he owed for it or there was a judgment; I thought it was a judgment.

Q. I refer now to the day the deed was given?

A. Yes.

Mr. Rasquin: Well then, we have nothing further just now.

396 The Witness: I think we discussed that judgment in connection with the value of the property at that time. It was a lien down there.

Q. Well then, you discussed the value of the property, did you?

A. Well, he was very enthusiastic about its value, and I had an appraisal of \$10,000. on it.

Q. Did that include the tower and everything?

A. Everything.

Q. Who made the appraisal?

A. I think a local real estate man for Boland, as

Francis S. Hutchins for Plaintiff—Recross.

I remember it. I think it came down from Boland's office. 397

Q. Not a man from New York; you don't know his name?

A. No.

Mr. Rasquin: I think that is all for the present.

Mr. Fordham: The plaintiffs rest.

Mr. Rasquin: With the reservation that we may—

Mr. Fordham (interrupting): I don't know anything about that. Plaintiffs rest.

Mr. Rasquin: There may something come up. 398
I don't know. We are not prepared to make any motions just now, if your Honor please, and we are not ready to go on with the defense, and I should like to have an adjournment of a week.

Mr. Fordham: I submit, if the Court pleases, that the defendant Tesla is quite prepared to go on with any motions that need to be made. As to proceeding with his defense, of course he knows better than I, although the defendant himself has been here present all forenoon.

Mr. Rasquin: Well, I won't take the defendants' suggestion as to any question of law that 399
I may want to raise, but I should like to confer with my associate.

The Referee: You do not want to go on further to-day, is that the point?

Mr. Rasquin: Yes.

The Referee: And to make your motion, whatever motion you may want to make, at the beginning of the next hearing, is that it?

Mr. Rasquin: Either at the next hearing, or if we can arrange it, we might make a motion, submit it to Mr. Fordham, and then submit it

Francis S. Hutchins for Plaintiff—Re Ross.

400 to you. Whether you would consider that or not——

The Referee (interrupting): Anything that is agreeable to you.

Mr. Rasquin: I am frank to confess that it may be that—there is a question in my mind now as to whether I should not make a motion sufficient to embrace the question which your Honor might be able to pass upon which might indicate just where we stood and where the issues were.

401 Mr. Fordham: Well then, I suggest, if your Honor please, that he make it; we are here and we do not have to take an adjournment for a week for him to contemplate that situation. That is a mental condition. He might just as well go on with his motion now, and we will consider it.

Mr. Rasquin: If your Honor please, my mind does not work as fast as Mr. Fordham's.

Mr. Fordham: I don't know about that. I thing maybe it moves faster.

402 Mr. Rasquin: And there is no one who will be prejudiced by it. I will confer with Mr. Hawkins. I have not had an opportunity of conferring with him. And the motion will be in your hands, let us say, by Saturday morning, to be impressed upon the stenographer's minutes—Saturday of this week—and that will give me an opportunity of conferring with Mr. Hawkins while here, and then we can have the form of the motion impressed on the stenographer's minutes and submit it to you.

Mr. Fordham: I suggest, if the Court please, that I have no objection to a long lunch adjournment. These gentlemen may confer to their hearts content. The Referee lives some

Francis S. Hutchins for Plaintiff—Recross.

miles away, and it is a good deal to ask him 403
to come in and listen to a motion.

Mr. Rasquin: I have not asked him to come
in to listen to a motion.

Mr. Fordham: That will be about what it
amounts to if you go about it in that manner,
it seems to me. Now, I suggest such an ad-
journment as would suit the Referee and the
other side. Anything suits me up to six
o'clock to-night. They can confer to their
hearts content and make their motion.

The Referee: Well, I have come down here
and I am at your service. Now, I want to 404
facilitate the matter as much as possible, con-
sistent with orderly procedure, of course, but
I do not want to dictate as to what your pro-
cedure is going to be. I do not want to come
down here for a fifteen minutes motion.

Mr. Rasquin: Oh, absolutely not, but what
I meant was this, that we would—I have done
it in other cases—that we would frame a mo-
tion and mail it to you so that you would have
it on Saturday morning, as well as Mr. Ford-
ham, and then on the next adjourned day you
could render your decision on it, and we could
then go on. 405

The Referee: Of course, we all see—I have
not gone into the matter thoroughly, but of
course I see the question that you seek to raise,
and it goes to the very life of this action. Now,
I do not see why any motion that you desire
to make could not be made now, and before
any adjournment is taken, and then if you see
fit, both sides, between now and the adjourned
date submit any authorities that you may have
in mind to sustain your respective positions,
why, I would be not only willing to receive

Francis S. Hutchins for Plaintiff—Recess.

406 them, but I would be more than glad to receive them, because I do not pretend to know on the spur of the moment what ought to be done with a motion that might be made, which would naturally be of so serious import.

Mr. Fordham: That is what I had in mind, your Honor, and what motion could possibly be made at this time, except to dismiss the complaint?

The Referee: Yes, it seems to me that a motion to dismiss——

407 Mr. Fordham (interrupting): If counsel wishes to make that motion, all right.

Mr. Rasquin: That may be so, and yet it may not be so. However, if I may ask the indulgence of the Court, that I may confer with my associate.

The Referee: It is half past twelve now, let us take a recess.

Mr. Rasquin: I have another hearing on at one o'clock, that is just the difficulty. I am going without lunch. It will only be a few minutes. I want five minutes at the most to confer with Mr. Hawkins.

The Referee: All right.

408

(Recess)

Mr. Rasquin: I have no motion to submit at this time, and I ask for an adjournment for one week.

Further hearing thereupon adjourned until January 12th, 1922, at ten o'clock A. M.

Last Plaintiffs' Exhibit No. 6.

Last Defendants' Exhibit M.

2D HEARING.

409

SUPREME COURT OF THE STATE OF
NEW YORK,

SUFFOLK COUNTY.

CLOVER BOLDT MILES and GEORGE C.
BOLDT, JR., as Executors of the Last
Will and Testament of GEORGE C.
BOLDT, deceased,

Plaintiffs,

VS.

NIKOLA TESLA, unmarried, THE WAL-
DORF - ASTORIA HOTEL COMPANY,
THOMAS G. SHEARMAN, LESTER S.
HOLMES, unmarried, VINCENT T.
GRIFFIN, unmarried, DWIGHT P.
ROBINSON AND COMPANY, INCORPO-
RATED, as successor to Westinghouse,
Church, Kerr and Company, ORANGE
T. FANNING, and THOMAS O'DON-
NELL, JOHN C. WAIT, individually
and as receiver of Wait and Foster,
GEORGE H. D. FOSTER,

Defendants.

410

111 Broadway, New York City,
JANUARY 19, 1922, 10 A. M.

Met pursuant to adjournment.

411

Before:

ROWLAND MILES, Esq.,
Referee.

APPEARANCES:

BALDWIN & HUTCHINS, Attorneys for Plain-
tiffs, HERBERT L. FORDHAM, Esq., of
Counsel,

RALPH J. HAWKINS, Esq., of Counsel for de-
fendant Tesla,

412 Mr. Fordham: If your Honor please, I move on the pleadings and the record for judgment. This is an action to foreclose two mortgages. The plaintiffs have proved their case. There is no motion before your Honor to dismiss the complaint. A defense has been set up, or has been sought to be set up, in the answer of the defendant Tesla, but the defense is in no way germane to the cause of action of the plaintiffs. The defense, as your Honor knows, is that subsequent to the giving of the bonds and mortgages in suit a deed and a bill of sale, or two bills of sale, were given, and that these papers were given not as absolute conveyances, as they purport to be, but as mortgages, additional mortgages, not these mortgages but other mortgages. That the plaintiffs, or someone representing them, seized upon the property of the defendant Tesla, sold certain portions of it and credited—and there is no objection to this part of it as I understand on Tesla's part—and credited the receipts of the sale to indebtedness owed by the defendant Tesla to the plaintiffs or people associated with them, but not upon the mortgages in suit. There is no claim to that effect, that this receipt was credited on account of the mortgages in suit. That I trust your Honor will bear in mind.

414

Now whatever may be the merit of the alleged defense, in any action or proceeding in which the facts claimed by the defendant Tesla as I have sought to indicate them may properly be alleged, certainly those facts, whether they be correctly claimed by the defendant Tesla or whether they be incorrectly set forth by his claim, have nothing whatever to do with the cause of action set forth by the plaintiffs in this complaint. In other words, on this action to foreclose these bonds and mortgages, it is entirely immaterial whether what the

Case.

defendant Tesla claims is true or whether it is not true. It makes no difference, because the only point in common that could arise between the cause of action set forth in the complaint and the facts as alleged by the defendant Tesla is this: if it were claimed and could be established that the defendant Tesla had no other indebtedness to these plaintiffs or the people associated with them except that shown by these bonds and mortgages in suit, then and in that event it might be possible for the defendant Tesla to insist that a part of the amount claimed now to be due had been paid or ought to have been paid by reason of the conduct which he alleges. 415 416

But your Honor will bear in mind that no such claim is made even, to say nothing of being sustained.

No such claim is made by the defendant Tesla. The record shows that everybody admits, as far as I know, that there were other dealings between the defendant Tesla and these plaintiffs or those to whom they have succeeded in interest, other dealings subsequent to those involved in the giving of the bonds and mortgages in suit,—that there was another indebtedness which remains largely unliquidated, and therefore it is totally immaterial what the defendant Tesla and these plaintiffs or people who preceded these plaintiffs in interest have done with reference to this deed and this bill of sale or with reference to the property affected by either. What difference does it make? That is not in issue before this Court. 417

If these plaintiffs or anyone connected with them owe the defendant Tesla any property or any money, let him sue for it and get it. When these plaintiffs or anyone associated with them see fit to take any action under the deed or under the bills

418 of sale, let the defendant Tesla object to such action
if he wishes to. The plaintiffs are not doing any
such thing now. They have not done any such
thing in any legal proceeding. The plaintiffs are
merely foreclosing mortgages, the whole amounts of
which are due, and unpaid. They are entitled to
their judgment of foreclosure and sale because
nothing has been offered in any way antagonistic to
that claim or conclusion. Now when they get their
judgment of foreclosure and sale they will proceed
to sell the property under that judgment. And if
a surplus should arise under that sale and if divers
and rival claims should be made as to the disposi-
419 tion of that surplus, whether it is the absolute prop-
erty of the plaintiffs by reason of their being the
absolute owners of the equity under the deed, very
well. If, on the other hand, the defendant Tesla
shall come in and assert his claims in the surplus
money proceedings, let him do so, and the claims
will then be passed upon and justice will then be
done as to those claims. But those claims have
nothing to do with the matter before the Court.

Now if your Honor has a question, I will be glad
to answer it.

420 The Referee: I was going to ask you, Mr. Ford-
ham, whether you thought that there was any dis-
tinction between the deed and the bill of sale. The
deed, as I have in mind now, could certainly be no
additional security to these mortgages. But is that
true with reference to this bill of sale necessarily?
Because that purported to convey property that
was not embraced in the deed. That is what I had
in mind.

Mr. Fordham: Quite so, your Honor, and sup-
pose it did, and suppose we took possession of that
property as they allege we did, suppose we sold it
as they allege we did and suppose we applied the

Case.

receipts from that sale as everybody admits we did, 421
to the liquidation in part of an indebtedness subsequent to the indebtedness secured by the bonds and mortgages in suit—

The Referee: But suppose the property that passed under that bill of sale was as the defendant claims of very great value and that you had not properly taken care of it, that additional security, might it not have been dissipated by you?

Mr. Fordham: I daresay many things might have been done by us and in any proper legal proceeding or inquiry affecting those claims it might be raised.

The Referee: But you do not think this is the place to raise it? 422

Mr. Fordham: I certainly do not, your Honor, because it has nothing to do with the matter. We are foreclosing some mortgages, just the same as if we were anybody else, and as I say, the only point in common between the two situations and proceedings as I view the situation would be the question of the defendant Tesla in this action being entitled to some credit or credits which we have not given him. Otherwise certainly there is nothing to be raised at all, absolutely nothing, affecting the facts before the Court. But when we come to, 423
that one possible claim we find it does not exist in this case.

The Referee: Is not that subject to proof?

Mr. Fordham: It seems to me that it is already proven. Your Honor will bear in mind that counsel for the defendant Tesla occupied a large portion of the first hearing in questioning the witness, Mr. Hutchins, on matters in no way raised by the plaintiffs in calling Mr. Hutchins, and certainly counsel for the defendant Tesla cannot object to having cited as facts, facts which he succeeded in

424 so establishing. Now on the proof before the Court as it stands and on the pleadings as they stand, I do not recall anything tending to show that the plaintiffs have failed to give the defendant Tesla credit on account of these bonds and mortgages in any amount whatever to which he may be entitled.

Now unless there is some such question as that before the Court there certainly is not any. I think your Honor will agree with me to that extent. Certainly there can be no other occasion to inquire into the nature of this deed and of those bills of sale. We are taking no action under them whatever in this action. We are claiming for the time
425 being nothing one way or the other about them. They are not here, they have nothing to do with our action. We are asking for judgment on the bonds and mortgages given. And if we are demanding a larger sum on account of those bonds and mortgages given than we are entitled to receive, let the defendant put his finger upon the dollar and cent which we are demanding in excess of our just and due claim on those bonds and mortgages. But so far—and certainly he cannot very well take a different attitude now,—so far the fact appears without contradiction or question that
426 there was other and subsequent indebtedness and that that other and subsequent indebtedness has not been liquidated, not at any rate to any large extent. There were some hundreds of dollars paid but by no means has it been liquidated.

Now your Honor will bear in mind that there is a fundamental rule of equity which requires that where a defendant comes into a court of equity seeking to set aside something or other that has been done, whatever that something or other may be, before he can be heard at all in that connection he must lay on the bar of the Court whatever ad-

vantage he has received under the transaction 427
which he now seeks to attack. Bearing that principle and rule in mind, if it should be supposed on any rule whatever that this court in this action could inquire into the nature of the deed and the bills of sale and into the conduct of the plaintiffs or of other people who are sought to be connected with them in that connection, the first thing that the defendant Tesla would need to do would be to lay down the money which he admits has been received and applied to his credit. But he lays down no dollar of that sum; he offers to lay down no dollar of the sum; he offers to do nothing whatever of any sort except to find fault with what has 428
been done.

Now of course my view of the situation and the law, is that all that is more or less beside the point, because all of that is outside of the purview of this litigation. But I simply direct your Honor's attention to that consideration so that if your Honor should conceive some other theory than that which has occurred to me your Honor would then be confronted with the situation that the defendant Tesla does not meet the first requirement. He makes no tender of restoration, he offers to do nothing, he pays nothing, he does nothing, he promises nothing. 429
All that he does is to come in in an action to foreclose two old mortgages, the only peculiar feature of which is the most extraordinary delay on the part of the plaintiffs out of consideration for him in starting to foreclose the mortgages, he comes in in this foreclosure and objects to the foreclosure. But does he pay the mortgages? Does he pay the bonds to secure which the mortgages were given? Does he offer to pay any part of them? Does he allege that any part of this indebtedness has been paid? Well, if he does, he has not done it in my

430 hearing, he has not done it in the pleadings; there is no money here in Court tendered by him. What standing has he to talk about deeds and bills of sale and all that sort of thing? He can talk about them sometime if he wants to. He must have his day in Court at the proper time and place, no doubt about that. If we have done anything wrong we are able to account and make good. He is not going to be deprived of a single right or a single dollar that is his. But there are times and manners and places for doing all things, and when we are seeking to foreclose two bonds and mortgages the whole amount of which is due and when nobody
431 says that the whole amount is not due it seems to me we are entitled to our judgment of foreclosure and sale.

The Referee: Do you wish to say anything, Mr. Hawkins?

Mr. Hawkins: If your Honor wishes to hear anything——

The Referee: I do not have any wishes in the matter. I want to know what you want to do.

Mr. Hawkins: I wish to proceed to protect the interests of those I represent at all times.

The Referee: Well, my disposition will be to
432 reserve the motion at the present time and decide it later. I do not care to dispose of the case on a motion at this time, so I will reserve decision.

Mr. Hawkins: Then I do not think my side has anything to say at this time in that event. I have anticipated and I think we all did that whatever motion should be made would be decided before we proceed.

Mr. Fordham: I had no such anticipation. I asked you if you had any motion to make and you said you did not, after consultation with Mr. Rasquin.

Case.

Mr. Hawkins: I had in mind some other conversation at that time, at the time of the last hearing, which perhaps may have skipped your memory. 41.3

Now our theory is, if the Court please, that these plaintiffs entered into possession of that property and took possession of it as mortgagees in possession and therefore are liable to the owner of the equity for whatever damages or waste the mortgagee in possession did. And my theory may be wrong, but I think it is not, as I understand if the owner of the equity shows that damage was done, I do not mean merely nominal damage, a dollars worth of damage, but if some substantial damage was done then your Honor will in your report say, in the event you find it to be true, that certain property was destroyed of substantial value and then that the plaintiffs shall account to the defendant for the spoliation of the property. That is my theory. 434

And with that in view, the next step of the defendant Tesla would be to show to the Court that a substantial damage was done after the mortgagees entered into possession. I do not know at this time, if I err I wish you would please suggest it to me—I do not know at this time that we have to show the entire damage but need to show only that some damage was done; and that was perhaps shown at the last hearing by Mr. Hutchins, who stated that the tower was taken down and disposed of. 435

The Referee: I understand your theory, counselor. I have given a good deal of time to your very able brief which you submitted to me, in the last two nights, as well as that of counsel on the other side. Now, what is your pleasure?

Mr. Hawkins: If I might be permitted just another word, as I understand the plaintiffs position.

Case.

436 if we insist that they are mortgagees in possession, as perhaps they are, or perhaps they entered as owners, I have not yet clarified in my mind the position which the plaintiffs take as to the entry upon that property, in order to come to a definite idea upon that I think it would be only fair for the plaintiffs to say whether they entered there under the deed or whether they entered there under the two mortgages that they are now foreclosing.

The situation in my mind resolves itself like this. If they entered as mortgagees in possession, then they are accountable. If they say that they entered there as owners, then it is for the defendant Tesla to establish to this Court that that deed was delivered to them and taken by them as a mortgage and not as an absolute conveyance.

437 Mr. Fordham: If the Court please, the plaintiffs' position is that they are here foreclosing two mortgages, and that they know nothing whatever about anybody's possession. Secondly, before the question of damages can be entered upon at all on any theory of the case, it is certainly necessary that the defendant Tesla, if the Court shall permit him to enter upon that branch of the case at all, shall establish that the deed was a mortgage. He cannot assume it was a mortgage and say that we entered as mortgagees in possession and then prove what we did. It is for him to make out a case as to the nature of that deed, if that branch of this controversy can be considered by this Court at all. I insist that my motion in that regard—

438 The Referee: I agree with you in that regard.

Mr. Fordham: Yes. Well, that is sufficient for me at this time.

Mr. Hawkins: It seems to me that the testimony of Mr. Hutchins at the last hearing very clearly set forth the facts and circumstances concerning

Case.

the delivery of that deed. Now your Honor will 439
 bear in mind that the deed was given by Tesla,—
 I do not like the word coercion, it is not a nice word
 —but the deed was given by Tesla under a stress
 of circumstances so that he could avoid there being
 filed against him an involuntary proceeding in
 bankruptcy. The letter marked in evidence and
 annexed to the plaintiffs' reply is an instrument of
 defeasance, the situation being that the deed was
 given which upon its face is an absolute convey-
 ance. A bill of sale also was given, but I will con-
 fine myself to the deed at present. It is conceded
 by the plaintiffs as I understand that the deed was 440
 not to be recorded for an indefinite length of time,
 for a considerable length of time, and was deliver-
 ed upon the condition that if the defendant Tesla
 paid certain moneys to the plaintiffs and Mr.
 Hutchins, very charitably to his friend, stipulated
 that some other money be also paid to somebody
 else—that then and in that event—but I am con-
 cerned principally with the facts that if certain
 moneys were paid to the plaintiffs or to the person
 whom the plaintiff represents, to the mortgagees,
 then the deed should be handed back to him. Now
 that to my mind does, and it does under the author-
 ities of the cases in this state, establish a legal 441
 proposition that that deed was delivered as a secu-
 rity, not as an absolute conveyance, but as a secu-
 rity, and the person asserting that is permitted
 under the decisions in this state and also the United
 States to show that it was delivered under a de-
 feasance condition which may be shown by parol
 evidence or any other evidence, and we maintain
 that that letter of Mr. Hutchins is that defeasance
 instrument.

The Referee: Do you want to rely upon that, is
 that your position here?

442 Mr. Hawkins: I am placed in a difficult position. Your Honor will not pass upon that question at this time, I understand?

The Referee: I do not want to unless you ask me to.

Mr. Hawkins: I find myself in a very difficult situation,——

The Referee: Of course, I have my own views as to the evidence which is already in upon those points and if you want to rely upon them, that will be your privilege. If not——

443 Mr. Hawkins: Your Honor will appreciate the fact that I am laboring under a great disadvantage. I know very little about the atmosphere of this case, almost nothing about it, and Judge Rasquin is unfortunately deprived of being here to-day and I have not had a chance to confer with him. I tried to reach him by 'phone this morning but I could not, he is not at his office, and here I am.

The Referee: There is no disposition on the part of anybody, I do not think, certainly not on the part of the Court, to take any advantage.

Mr. Fordham: Not at all, that is not the question before the Court. If Mr. Hawkins wishes to present that question we will gladly consider it.

444 What is it, do you want an adjournment?

Mr. Hawkins: I shall ask for it.

Mr. Fordham: Certainly, I will not oppose it.

Mr. Hawkins: We do say that the question before the Court is of course the foreclosure of these two mortgages. We also say that you did enter as mortgagees in possession or under some other color, I do not know how it would be defined, and having entered as mortgagees in possession, worked certain acts of spoliation there for which we ask you to account. That is our theory of it.

Mr. Fordham: Now I think your Honor has the 445
theory of each side.

The Referee: I think so.

Mr. Fordham: And that being so, and Mr. Hawkins as I understand not being in a position to go further this morning, it is not my desire to press him in any manner, and if he desires an adjournment, probably before the next hearing your Honor can prepare himself to decide these legal questions that have been submitted, so that we shall know where we stand at the next time we meet or before that. Probably it would be better for the defendant to know before the next time we meet whether he is going on with proof of the facts or not. I 446
assume he would like to know.

Mr. Hawkins: It would facilitate it very much.

The Referee: If counsel wants to know my attitude as to the proof as already in I will indicate it, but I refrained from doing so thinking that the more orderly procedure —

Mr. Fordham: I have made a motion this morning on which your Honor reserved decision. Now I do not wish to ask for a decision on it this morning. And Mr. Hawkins, much to my surprise this morning has indicated certain claims of his with reference to the effect of a subsequent agreement or subsequent acquiescence, about deferring the time of record of a certain instrument. I did not suppose for a moment he was going to rest his case on any such theory as that. 447

Mr. Hawkins: You misunderstand me.

Mr. Fordham: Well, I do not know whether you do or not, but you have spoken of it at any rate.

The Referee: Does counsel wish me to state what I think upon the question of the proof or absence of proof at the present time as to whether this is a mortgage or a deed?

448 Mr. Hawkins: It would be perfectly agreeable to me.

Mr. Fordham: I have no objection.

The Referee: I do not want to interrupt, but if it is the wish of counsel and it would aid counsel in any way as to their future conduct I am perfectly willing to do so if counsel desires.

Mr. Fordham: Very well.

449 The Referee: Counsel expressing the wish that I should so express an opinion, the Court states that at the present time he thinks the evidence falls entirely short of proving that this deed is a mortgage, and on the evidence now adduced he should so hold.

Mr. Fordham: Then as to the motion that I have made this morning, could not that be taken under advisement and perhaps some ruling made prior to the next hearing so that we would know exactly where we stand? Your Honor can refresh his recollection of the evidence already given and of the pleadings in the light of that motion.

The Referee: I read the evidence all over last night and I have a fairly good knowledge of it.

450 Mr. Fordham: I am not pressing for a decision of the motion at all, but I was wondering if it would not be helpful. I think what your Honor has already done is very helpful in indicating to the other side that they have something to do if they are going on on that theory at all. They know now they have to do something more than rely on that letter.

The Referee: I think that letter is not sufficient.

Mr. Fordham: I did not suppose anyone would claim that it was. I am astonished that any such claim should be made. But what I started to say in this connection was that if a ruling should be

had on this other motion which I have made this morning before we meet again we should then both know where we stand as to the theories of the case. 451

Mr. Hawkins: You refer to your motion for a judgment on the pleadings?

Mr. Fordham: On the record and on the pleadings, yes. That is the only motion I have made.

The Referee: I am perfectly willing to take that under advisement, but I would be loath to decide this case on the motion of that character without seeing what the defendant has to offer by way of proof, if he can offer any to the effect that as a matter of fact this bill of sale and this deed was a mortgage, and then in the final decision pass upon all the questions in the case. 452

Mr. Hawkins: That of course is altogether consistent with the pleadings, and if your Honor took any other view of it, any one trying a jury case or anything else, after he had proven the cause of action, could get up and move for a judgment without giving the defendant an opportunity to be heard in any respect, and the plaintiffs attitude here this morning seems to be not altogether consonant with that attitude of procedure. We of course wish to be heard and to be given an opportunity to adduce evidence before this Court to sustain the position which we have alleged in our pleading. 453

Mr. Fordham: From the remarks that have been made as to the defendants' claim, he seems to have misunderstood. Our thought of the defendants' claim amounts to this, that assuming that everything he claims is true, it has nothing whatever to do with this foreclosure action. That is the position. We are not asking the Court to say that his claim is a false one or a mistaken one, not at all.

The Referee: In other words, Mr. Fordham, you think you could have gone to Special Term and have made this motion and that it should properly have been granted upon the pleadings alone?

Mr. Hawkins: I quite apprehend your position and I just as emphatically differ from it as I thoroughly comprehended it.

Mr. Hawkins: I have comprehended it from the first.

The Referee: Yes.

The Referee: It is denied at this time.

Mr. Fordham: Yes.

456 Next plaintiffs' exhibit 7.
Next defendants' exhibit N.

22. 1. 11. 11. 11.



Central Power Plant, Transmitting Tower, and Laboratory for "World Telegraphy,"

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